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A Review of the Dall’Olmo Survey of Meteors, Meteor Showers and Meteorites in the Middle Ages from Medieval European Sources

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Abstract

It is a long time since the last comprehensive compilation of meteoric observations from medieval European sources was published. Since then, the advances in information technology, search engines and, above all, the emergence and development of the Internet have facilitated the access to and search for these records for scholars, making their work easier and even avoiding the need to go to libraries that keep the documents. In this paper, we have significantly enlarged the list of reports of medieval European meteoric events, using mainly the current classical sources and also other local documents previously not considered by the authors that have dealt with this issue.

Keywords

Astronomical sources, medieval astronomy, meteors, meteor showers

Almost 40 years have passed since Dall’Olmo¹ (DO henceforth, when we refer to this paper) made the last compilation of meteoric observations in medieval Europe following the footsteps of earlier authors, the main ones being H. A. Newton, Perrey, Quetelet, Herrick, and R. R. Newton.² Other authors have provided surveys from other parts of the earth, such as Asia³ or the Arab world.⁴ More recently, Jenniskens⁵ has provided a list


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putting together all these records. In any case, since the compilation carried out by DO, the advances in information technology, search engines and, above all, the emergence and development of Internet have facilitated the access and search of these phenomena to researchers, avoiding even the need to go to libraries that guard the documents.

It should be borne in mind that the lists provided by the authors named above are not just historical data, but they are also used to perform astronomical studies regarding meteor phenomena in past times, for example the evolution of the Leonids radiant.⁶ In this sense, Europe is under-represented, due to the scarce amount of reported events, especially when compared to the data from Asia, so that many of the results obtained may vary in light of new data.

Regarding the reports, the main problem that we have had to face is the identification of the celestial phenomena in ancient chronicles. We have considered the study about the nomenclature of such phenomena by ⁷ As this author states, the imagery and the vocabulary of the authors vary according to the historical context, the geographical localization, and the cultural and scientific background. This problem is increased by the fact that we usually find records regarding meteors in non-scientific papers, the authors being more interested in giving a supernatural significance to the events than to explain them.

The main point is the ambiguity in the use of the same vocabulary to refer to meteorological events, aurorae, comets, and meteors. Sometimes there is no problem in identifying a meteor, a meteor shower, or a storm. This is the case when the author uses a statement such as “stellae cecidisse” (stars fell). In general, we will ignore common expressions like “signum in coelo mirabiles appareunt” (miraculous signs appeared in the sky) unless they provide other data that can be ascribed to a certain phenomenon. For example, it can be determined that something is not an aurora if the author specifies that it was seen at the “hora noctis prima” (first hour of the night) because roughly speaking, the best time to see the aurora is when dark is complete, and it is very difficult to see it in lower latitudes, which is where many documents that we study come from. We also use the list of aurorae by  to disregard some of the accounts. In general, the older the reports, the harder they are to interpret: It is difficult to distinguish among meteors, showers, auroras, and meteorological events for records from the tenth century or before. As time advances, the records are clearer as they untie the religious interpretation and provide more data, such as the hour of the day.

Our plan of work consisted of three parts: first, we proceeded to review the list of meteors and showers of stars of DO. Second, we performed a complete review of all sources that this author made using the new computer resources available to us. Third, we have added a large number of new sources, including those in this respect almost unexplored, mainly Spanish and Portuguese, as well as some others from Eastern Europe with available English translation.

Regarding the first phase, namely, the revision of the list given by DO, it should be noted that this author provided a total of 133 observations, 62 of which are completely dated, including year, month, and day. For other 17 reports, it was possible to determine the year and the month, but not the day. Our first objective was to locate the events in the sources given by DO and, if necessary, correct any errors or typos. As an example of such corrections, the shower that DO lists on 4 April 1040 actually happened on 4 April 1094. Sometimes, we found that the bibliographical reference was wrong, such as the record of

a meteorite in 1481. Finally, the study of the context allowed us provide a more complete date to some records, such as the observations of the meteors of 1187 or those in August 1287.

Second, we use the computer resources at our disposal to carry out a search as exhaustive as possible in the sources already used by DO in order to complete his list. In a first phase, we strictly limit ourselves to those used by this author: *MGH*, *RIS*, *Rer. Brit. M.A. Script.* and some other isolated French and Italian chronicles. Then, we expanded our study adding other sources lesser known or used, from Spain, Portugal, and Russia among others, collected both from collections or particular sources and that, sometimes, have not been transcribed into modern writing. Most of them were written in Latin, but we also found them in Castilian, Catalan, Portuguese, or Italian. For geographical reasons, we have also included the records that refer to meteoritic phenomena seen in Andalusia (southern Spain), despite the fact that this area was, in whole or in part, under Arab domination between the fifth and fifteenth centuries and, therefore, belongs to a different cultural field.

To present the results, we offer a list of the observations in which we include the date (in the case of Arab observations, we also give the Anno Hegirae or AH), sometimes deduced through the historical context because the original author did not provide any; we write the record as we have found it, respecting the original language and, where appropriate, preserving the orthographic mistakes made by the copyist. Next, we include a brief translation of the phenomenon, and in some exceptional cases, we make a comment and provide details such as the place, the time of the day, or the path followed by the meteor. Comments have been reduced to their simplest expression in order not to make the paper longer. In total, we show more than 350 observations. Most of them are dated at least monthly.

We also provide a preliminary analysis of the data. Figure 1 shows distribution of the dated observations divided into four sets: the fifth to eighth, eighth to eleventh, eleventh to fourteenth, and fourteenth to fifteenth centuries. Δ is the number of days from the perihelion passage time to the appearance of the meteors. Most of the dated records are in the range between the fourteenth and fifteenth centuries.

In Figure 2, we see a histogram showing the observed distribution of star showers by months (in blue). The red histogram displays the accounts compiled by DO. The red line represents the number of observations in which isolated meteors are reported. In a preliminary analysis, the months of April and October stand out because of their high number of sightings. The month of October seems to clearly correspond to the Leonids, while the Lyrids are the best candidate for the month of April. This star shower is not currently one of the most active, but the analysis of the data suggests a higher activity rate especially in the years between 1000 and 1500. On the other hand, it is surprising there is scarce number of reported showers in the month of August that would correspond to the famous Perseids. In fact, DO did not find any report for this month. This is somehow compensated by the large number of isolated meteor observations.

It is also remarkable the large quantity of reports were found in the month of April of successive years, beginning from 1094 (which should be a really impressive shower because the moon was full) up to 1098, with a gap in year 1097. These data should be compared with those from other parts of the world in order to draw conclusions, but this is out of the scope of the present paper.

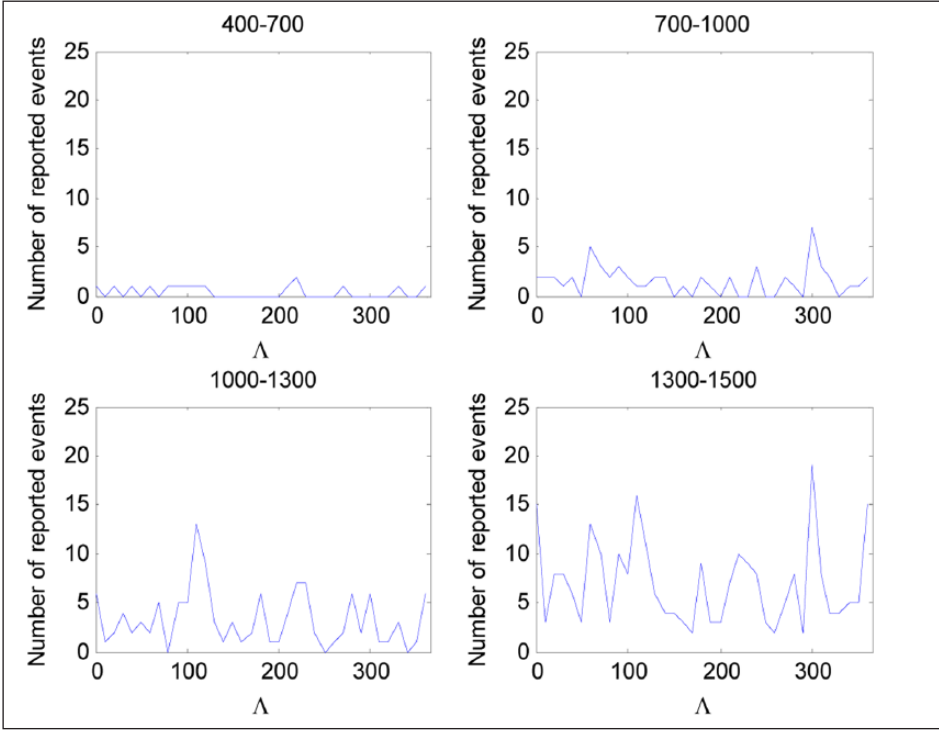


Figure 1. Distribution of dated observations in time.

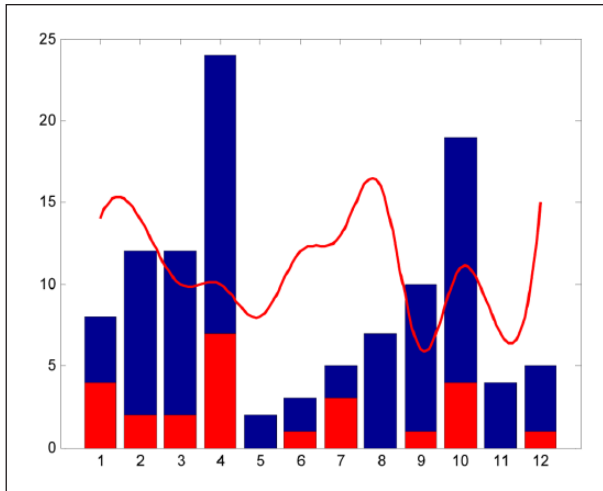


Figure 2. Histogram showing the distribution of showers observed between fifth and fifteenth centuries presented in this paper. The red histogram represents the showers given by Dall'Olmio (DO). The red solid line represents the number of observations in which isolated meteors were reported.

Meteors reports **IAQ: 1**

(1) 419, 25 July

*Signum apparuit in coelo.*⁹ (Sign in the sky) A meteor or shower that appeared at the beginning of the night.

(2) 428, 5 March

*Signum apparuit in caelo stella ardens sicut facula.*¹⁰ (Fire star, like a torch) A meteor.

(3) 450, 4 April

*Plaga coelum rubens, sicut ignis aut sanguis effectum est, permistis per igneum ruborem lineis clarioribus in speciem hastarum rutilantium deformatis.*¹¹ (Lines and spears of fire) Probably a shower or an aurora that lasted all the night seen in Galicia, North-West of Spain. It was seen as the omen of an earthquake.

(4) 452, 23 March

*En los días de la Pascua siguiente viéronse en el cielo, en las regiones de las Galias, ciertas señales.*¹² (Signs in the sky) An aurora or a shower seen in France.

(5) 452, 453 or 454. See DO.

*Tres magni lapides.*¹³ (Three big stones) A meteorite fell in Thrace.

(6) 453, April

*Cruzando por el cielo exhalaciones ardientes.*¹⁴ (Fiery exhalations crossing the sky) A shower preceded by an earthquake, seen as an omen.

(7) 518. See DO.

*Alius ignis ... instar scintillarum.*¹⁵ (Another fire starlike) A meteor.

(8) 524

*A vespere ad crepusculum matutinum astrorum concursus ingens visus est ... Cadunt e coelo stellae.*¹⁶ (Moving stars, stars fell from the sky) A shower.

(9) 532. See DO.

*Magnus fuit stellarum discursus.*¹⁷ (Moving stars) A shower.

(10) 549. See DO.

*Ignisque in coelo apparuit in lanceae specie a septentrione ad occasum.*¹⁸ (Fire like spear) A meteor moving westward from the north.

(11) 555

*Quasi species lanceae in celo apparuit.*¹⁹ (Something like spears) A shower from the northwest.

(12) 556. See DO.

*Ignis in caelo apparuit, lancea forma.*²⁰ (A fire like a spear) A meteor from north to west.

(13) 557. See DO.

*Stellarum discursus fuit a vespere usque ad auroram, ita ut omnes perterriti dicerent stellas decidere.*²¹ (Moving stars) A shower that lasted the whole night.

(14) 561, 25 July

*Et visum est aliud signum magnum et terribile et ecce in aere quasi hominum pugna inter se dimicantes.*²² (A great sign, a fight in the sky) A shower in the morning.

(15) 567

*Hastae igneae in caelo visae sunt.*²³ (Fiery spears appeared in heaven). A shower.

(16) 568

*Ignae acies in coelo.*²⁴ (Fiery armies) A shower seen over Italy for several nights.

(17) 570

*Ignae acies in caelo per Italiam visae sunt.*²⁵ (Fiery armies). A shower.

(18) 575. See DO.

*Fulgor per caelo discurrisset visus est.*²⁶ (A gleam) A meteor.

(19) 577

*Se vieron discurrir por el ayre 20 rayos, de los cuales una mayor precedía y los demás le adelantaban.*²⁷ (20 gleams, preceded by a bigger one) A meteor that bursted in the sky and caused a meteor storm.

(20) 577, 11 November

*Eo anno stella in medio lunae fulgens visa est.*²⁸ (A shining star in the middle of the Moon) See also *Stella ex adverso veniens in lunam ingressa est.*²⁹ From this record, it seems clear that this is a report about either a meteor that crossed the moon, or an occultation. The exact date is provided in *Chronicon Vedastinum* and *Gregori episcopi Turonensis*.³⁰ In this last record from Tours, it is also suggested that more moving stars were seen over and under the Moon. There are no visible occultations of planets or bright stars for this date in Tours. The Moon was full and it was in Taurus, near Aldebaran (α Taurus) and Jupiter, but in both cases, the angular distance was greater than 5° . This account probably describes a meteor that crossed the Moon followed by a star shower.

(21) 580

*Fulgor per caelum cucurrisse visum est.*³¹ (A gleam moving) A meteor. Seen in Tours before dawn.

*Ignis per celum discurrere visus est.*³² (Fire in the sky)

(22) 580, September. See DO.

*Fulgor per caelo cucurrisse visum est.*³³ (A gleam running across the sky). A meteor.

(23) 582. see DO.

*Per caelum ignis discurrere visus est.*³⁴ (Fire running across the sky) A meteor.

(24) 582, 29 March

*Caelum ardere visum est, ita ut duo apparerent incendia; et unum erat maior, aliud vero minor. Post duarum vero horarum spatium coniuncta sunt sumul, factamque pharum magnam, evanuerunt.*³⁵ (A big flame) Probably a meteor seen during an aurora in Soissons, in northern France.

(25) 583, 31 January.

*Globus magnus ignis.*³⁶ (Big ball of fire) A meteor.

(26) 584, December. See DO.

*Pharus quoque ignea, per coelum nocte currens media, late mundum luce lustravit clara. Columna etiam ignis coelo pendere est visa, cui superposita erat stella magna.*³⁷ (Big beacon) A meteor seen before dawn. *Gregori episcopi Turinensis*³⁸ states that the column of fire lasted for 2 hours.

(27) 585

*En este año se vieron en Francia admirables prodigios, como fuegos en el cielo.*³⁹ (Fires in the sky) Meteors seen in France.

(28) 585, July. See DO.

*Fulgor per coelum cucurrisse visus est.*⁴⁰ (Gleam moving) A meteor.

(29) 586. See DO.

*Signum apparuit in coelo globus igneus decedens in terram cum scintellis et rugeto.*⁴¹ (Ball of fire) A meteor that fell with sparks and was followed by a thunder.

*Fulgor per coelum in modum serpentis cucurrisse visus est.*⁴² (Gleam as a snake)

(30) 590. See DO.

*Globi similiter ignei per noctis tempora saepius per coelum cucurrisse.*⁴³ (Balls like fire) A shower.

(31) 596

*Post hoc visum est terribile in coelo signum, & velut hostes sanguinei per totam noctem dimicantes.*⁴⁴ (Blood enemies) Probably a shower.

(32) 597

*Globi ignei per caelum quasi currentes instar hastarum ad occidentem visi sunt.*⁴⁵ (Balls of fire running like spears) A shower flying to the west.

(33) 599. See DO.

*Globae igneae per caelum currents et ad instar multitudinem astarum igneum ad occidentem apparuerant.*⁴⁶ (Balls of fire) A shower with meteors flying to the west. The year is 599 or 600 depending on the authors.

(34) 602

*Globi ignei et alia signa in caelo visa.*⁴⁷ (Balls of fire and other signs) Meteors or a shower.

(35) 607

*Inter haec etiam apparuit cometa mane et vespere per unum mensem. Subsequenti tempore signum sanguineum in coelo apparuisse visum est, & quasi hastae sanguineae, et lux clarissima per totam noctem fulsit.*⁴⁸ (Bloody sign, bloody spear) A meteor and an aurora. Dall’Olmo⁴⁹ gives year 633, but both reports are cited in the epoch of Sabinianus (604–606) and around the death of emperor Mauritius (602) and Gregorius Magnus (604). In addition, the *Chronicon Jacobi Malvecii* states that Agilulphus (590–616) was king. In accordance to the date, the comet mentioned in the paragraph could have been 1P/607 H1 Halley.⁵⁰

(36) 652, Summer

*Ignis de coelo cecidit et timor magnus super homines venit tribus aestivis mensibus.*⁵¹ (Fire from the sky) A meteor.

(37) 654. See DO.

*Ignis de coelo cecidit.*⁵² (Fire from the sky) A meteor.

(38) 660, 1 December. See DO.

*Visus est subito velut pharos magno.*⁵³ (Big beacon) A bright meteor.

(39) 676

*On a sudden a light from heaven, like a great sheet, came down upon them all ... But that resplendent light, which seemed to exceed the sun at noonday, soon after rising from that place, removed to the south side of the monastery, that is, to the westward of the oratory, and having continued there some time, and covered those parts in the sight of them all, withdrew itself up again to heaven.*⁵⁴ A bright meteor, seen at dawn at the monastery of Barking, in England.

(40) 685. See DO.

*Ea quoque tempestate stella in meridie vista est cum magno fulgore cadere in orientem.*⁵⁵ (Star fell) A meteor falling in the east. DO gives a time interval between 670 and 680, but from the context, we see that it was in or after year 677 and after two eclipses of Sun and Moon that were seen as the omen of a pest epidemics in Rome. However, some contradictory data appear, so we have considered the previous *stella splendidissima*⁵⁶ (comet 1P/684 R1, Halley's comet⁵⁷) and the next Vesubius eruption in A.D. 685 to date this report.

(41) 685, February

*Stella ab occasu exiit, quae cum magno fulgore in partes orientis declinavit.*⁵⁸ (A star arose from the west to the east) A meteor seen at noon.

(42) 726. See DO.

*Signum quoque igneum splendidissimum in coelo visum.*⁵⁹ (Sign of fire) A meteor.

(43) 741. See DO.

*Signum mirabile in coelo; stellae namque hac et illac discurrebant per aera.*⁶⁰ (Stars were moving) Probably a shower. DO gives year 742.

(44) 743

*Visae sunt stellae quasi de coelo cadere.*⁶¹ (Stars fell from the sky) A shower.

(45) 743, 1 January. See DO.

*Visi sunt in aere ictus ignei.*⁶² (Jets of fire) A shower.

(46) 744. See DO.

*The stars went swiftly shooting.*⁶³ A shower.

*There was a remarkable appearance in the heavens; stars were seen shooting to and fro in the air, which seemed a prodigy to all beholders.*⁶⁴

(47) 745, 1 January. See DO.

*Visi sunt in aere ictus ignei quales numquam ante mortalem illius aevi viderunt.*⁶⁵ (Jets of fire) A shower.

(48) 747. See DO.

*Stellae de caelo cadentes apparuerunt.*⁶⁶ (Falling stars) A shower.

(49) 749

*In this time there appeared 2 blazing stars, casting as it were burning brands towards the North.*⁶⁷ Two meteors.

(50) 750, 5 April

*Tres estrellas que se movían de una forma extraña y como si hubiesen perdido brillo precedidas por una especie de hoz color de fuego o esmeralda.*⁶⁸ (Three stars moving in a strange way as if they had lost bright preceded by a kind of fire or emerald color sickle) Three meteors that appear in successive hours in the morning.

(51) 750

*Idque circa vesperam exorsum tota nocte deinceps apparuit ... Videbantur enim astra ordine suo ac statione dissoluta in terram decidere, atque ubi prope illam attigerant, nullo cuiusquam damno dissipari.*⁶⁹ (All the stars left their appointed places in the heavens and descended towards the earth) A shower, it began at sunset and was visible during the whole night, causing surprise and great fear in all the beholders. Many assert that this astonishing light was witnessed throughout the whole world.

(52) 752

*Qui dum iret, apparuit in coelo globus igneus a parte australi, declinans a Galliae finibus in partes Longobardorum.*⁷⁰ (Ball of fire) A meteor. DO provides a time interval between 749 and 756, but this report appears in other chronicles with the date 752.

(53) 763

*Stellae subito visae de caelo cecidisse.*⁷¹ (Stars fell from the sky) A shower, considered as an omen of the end of the world.

(54) 763, March. See DO.

*Stellae de caelo ceciderunt.*⁷² (Stars fell from the sky) DO gives year 715 or 716, but the source clearly states that this event happened during the 23th reign year of Constantinus V. Three years before a comet was seen, probably 1P/760 K1 (Halley's comet).⁷³

(55) 764, March. See DO.

*Stellae de coelo cadentes apparuere.*⁷⁴ (Falling stars) A shower.

(56) 765

*Stelle de celo cadere visa.*⁷⁵ (Stars fell) A shower.

(57) 765, 4 January

*Stellae quasi e coelo cecidere visae sunt.*⁷⁶ (Stars fell from the sky) A shower.

*Ignei ictus in aere visi sunt.*⁷⁷ (Fire jets) A shower. DO gives years 763 or 765.

(58) 770

*Stellae de caelo cadere terribiliter visae sunt.*⁷⁸ (Stars fell from the sky) A shower.

(59) 774

*This year also appeared in the heavens a red crucifix, after sunset.*⁷⁹ A meteor or an aurora.

(60) 776. See DO.

*Ex dicunt vidisse se instat duorum scutorum colore rubeo flammantes & agitantes.*⁸⁰ (Two inflamed shields) Two bright meteors.

(61) 786. See DO.

*Fuit missum signum de coelo a Deo in terra.*⁸¹ (Sign in the sky) DO states that this is a report of a bright meteor, but neither the report nor the context allows us to assure it.


(62) 793, January

*These were immense sheets of light rushing through the air, and whirlwinds, and fiery dragons flying across the firmament.*⁸² A shower.

(63) 797

*Visi sunt flammei dracones volantes per aera.*⁸³ (Flying dragons of fire) A shower.

(64) 807, 26 February

 *Aruerunt in celo acies mire magnitudinis.*⁸⁴ (Armies in the sky) A shower during a lunar eclipse.

(65) 810. See DO.

*Vidit repente delapsam caelitus cum ingenti lumine facem a dextra in sinistram per serenum aera transcurrere.*⁸⁵ (A bright light). DO provides the word "Fax" as reference, but we have not found this word in the text.

(66) 813, June. See DO.

*Signum igneum tamquam lampadam in caelo multi viderunt.*⁸⁶ (Burning sign) A meteor.

(67) 817, October

*Igneae acies apparuerunt in caelo.*⁸⁷ (Armies of fire) A shower.

(68) 829, 3 December

*Apparuit lux magna ab oriente.*⁸⁸ (Bright light) A meteor that appeared at dawn from the east.

(69) 836, February

*Mirandae acies apparuerunt ab oriente in occidentem.*⁸⁹ (Armies) A shower in the beginning of the night; the meteors were flying from east to west.

(70) 838, 16 February

*Ignis forma draconis in aere visus est.*⁹⁰ (Dragon of fire) A meteor.

(71) 838, 20 December

*Tronitui magni auditus est et fulguris visus.*⁹¹ (A big thunder followed by a lightning) A meteor seen as an omen.

(72) 839. See DO.

*Igniculi plurimi instar stellarum per aere discurrere videbantur.*⁹² (Small starlike fires) A shower seen after the appearance of comet X/839 B1.⁹³ DO gives year 840.

(73) 839, February

*Acies quoque in coelo igneas colorumque aliorum mense Februarii, sed et stellas igneos crines emittentes crebro videri contigit.*⁹⁴ (Armies of fire) A shower.

(74) 839, 25 March

*Flamma ignis supra totum mare visa est ... Admirandae acies apparuerunt vespascente die in caelo, in modum domus rotunda totum caeli ambitum circumducentes.*⁹⁵ (Wonderful armies) A shower in the afternoon, preceded by a bright meteor.

(75) 839 (AH 224), April–May

*There was a meteor storm in all Spain and a lot of stars were seen flying from South to North and from East to West.*⁹⁶ A shower. This account is dated in the Arab month *jumādā at-tāniya* that began on 20 April and ended on 18 May, so the approximate date of this shower can be quite well established.

(76) 839, 8 May. See DO.

*Apparuit in caelum signum mirabile discurrentium inter se stellas ab oriente in occidentem velocissimum.*⁹⁷ (Marvelous signs, stars) Very fast meteors from east to west.

(77) 840

*Acies consimiles apparuerunt per duas simul noctes, sicut hae quae priore anno fuerunt.*⁹⁸ (Armies) A shower, similar to the ones that appeared in 839.

(78) 840, 5 May

*Apparuit in caelum stellam ardens tanquam facula, superans virtutem solis, et aliqua modica sub ipsius, quasi passos duos ibant ab oriente in occidentem, et post virtutem radiat solis iterum candor earum in ipsis erat stellis.*⁹⁹ (Fiery star like a torch) There is the possibility that the author refers to one of the comets seen in 840; however, the fact that it was “brighter than the sun” makes us think that a meteor best suits the description.

(79) 841

*Ignea spicula in invicem miserunt.*¹⁰⁰ (Fire dart thrown) A meteor.

(80) 842, 1 March

*Acies in coelo.*¹⁰¹ (Armies in the sky) A shower early at night.

(81) 842, 13 March

*Apparuerunt acies in coelo hora noctis secunda horribiles a parte orientis in modum albi coloris, nigri et rubei sive viridis. Erant autem aliae maiores, aliae minores, ac sine intermissione aut occidebat, aut oribantur.*¹⁰² (Armies) A shower or an aurora.

(82) 842, 1 May

*Acies iterum in coelo isto visae sunt.*¹⁰³ (Armies in the sky) A shower.

(83) 846

*Lux magna in nocte apparuit.*¹⁰⁴ (A great light) A meteor.

(84) 848, 27 November

*Acies visae in coelo.*¹⁰⁵ (Armies) A shower or an aurora.

(85) 848, 27 December

*Acies terribiles visae sunt igneae inter aquilonem et orientem, et in media plaga orientali visuntur, aurora surgente.*¹⁰⁶ (Armies of fire) A shower or an aurora before dawn.

(86) 855, August

*Duae stellae maioris et minoris quantitates visae sunt a parte occidentis orientem versus incedere, et hoc per decem vices adeo alternatim, ut maiore permanente, minor aliquoties nullatenus appareret.*¹⁰⁷ (Stars moving) A shower, the meteors run from west to east.

(87) 855, 17 October. See DO.

*Igniculi instar spiculorum occidentem versus per aere densissime ferebantur.*¹⁰⁸ (Small fires like points of lances) A meteor shower from east to west that lasted the whole night.

(88) 859, August–October

*Acies in coelo mense Augusto, Septembri et Octobri nocturno tempore visuntur, ita ut diurna claritas ab oriente usque in septentrionem continue fulserit, et columnae sanguineae ex ea discurrentes processerint.*¹⁰⁹ (Armies in the sky, blood columns) Showers.

(89) 861

*Ignae acies apparuerunt in caelo.*¹¹⁰ (Armies of fire) A shower.

(90) 861, 10 March.

*Ignae acies apparuerunt in celo.*¹¹¹ (Armies of fire) A shower, surely the same as that in (89).

(91) 868, September

*Eodem tempore in Saxonia ignis in aere sagittae celeritate ferri visus est, grossitudine ligni foenarii, et sicut massa ferri in conflatorio scintillas emittens.*¹¹² (Fire in the sky like arrows) A shower seen in Saxony.

(92) 870. See DO.

*Spicula ignea invicem sine intermissione mittentes.*¹¹³ (Fire points of lances) A shower.

*Ignis globus maximus, in aurora diei de aethere est lapsus.*¹¹⁴ (Ball of fire) A meteor seen at dawn.

(93) 873 or 874. See DO.

*Lapides pergrandes de caelo corruunt.*¹¹⁵ (Big stones) Probably some meteorites, seen as carriers of pest.

(94) 875

*Ignis globus maximus in aurora diei de aethere est lapsus, itaque stella cometes apparuit.*¹¹⁶ (Ball of fire) A bright meteor fell from the sky at dawn.

(95) 877, 4 January

*Cum esset coelum totum serenum, & jam aurora crebresceret, apparuit nempe lux immensa, ut nobis visum est quasi duodecim momenta, & cum fuisset intervallum quasi punctum unum, auditum est trinitum magnum in coelo.*¹¹⁷ (Immense light) A meteor followed by a big thunder.

(96) 881, July. See DO.

*Stella de oriente in modo facule visa est pertransisse, que totum pene mundum iluminavit.*¹¹⁸ (Star like a torch) A meteor from the east. DO does not provide the month.

(97) 892

*Fax terribiliter a parte meridiana longo tractu effulsit. Dehinc post dies octo similiter fax ab oriente emicuit pene usque occidentem, quae postquam desinere coeperant, facta est velud species draconis aut licterae ... denuo fax a meridiana plaga cucurrit et post modicum ad aquilone et post paululum ab oriente et post aliquod dies ab occidente, quater enim illis diebus effuserat.*¹¹⁹ (Torch) Several meteors following the occupation of Benevento and Siponto by the Byzantine army under the *strategos Simbatikios*.

(98) 894, July

*Multotiens apparuere eadem signa facularum per diversa loca; sed terribilios illud non fuit quam quod in Apulia apparuerat; flamma enim longa ardere visa est.*¹²⁰ (Long flame) A meteor seen in the morning in Apulia, in Southern Italy, dated through the fire in Benevento on 13 July 894.¹²¹

(99) 894, September

*Fax solita emicuit et denuo coelum scindi noctu visum est, et longo tractum eadem scissio mansit.*¹²² (Light) A meteor running from east to south that left a long trail. It is dated through the death of Georgius Patricius, in September 894.¹²³

(100) 900. See DO.

*Stellae enim visae sunt undique tamquam ex alto in orizontis ima profluere.*¹²⁴ (Stars flow) A shower.

(101) 901. See DO.

*Visum est signum, lapsus stellarum.*¹²⁵ (Fall of stars) DO gives year 904, but it is dated the year Radboud of Utrecht was appointed as bishop of Utrecht and prior to a flood that the same bishop states in 901.

(102) 902

*Aparición de un gran número de estrellas vagas o cadentes, exhalaciones encendidas que asemejaron una lluvia de fuego.*¹²⁶ (Falling stars similar to a rain of fire) A shower.

(103) 902, 27 September. See DO.

*Stelle velud pluvie per maximam noctis partem cadentes.*¹²⁷ (Falling stars) A shower that lasted all night.

(104) 902, 13 October. See DO.

*In nocte visi sunt igniculi in modum stellarum per aera discurrentes.*¹²⁸ (Small starlike fires) A shower that lasted all night. Newton¹²⁹ discusses the different historical reports and gives 13 October as the most likely date. This accords with the record from *MGH. Libri mem.*

(105) 902 (AH 289), 28 October

*There was a considerable rain of stars.*¹³⁰ A shower seen in Andalusia (presumably Cordoba), in Southern Spain.

(106) 903, August

*Stellae de caelo per noctem visae sunt decidisse.*¹³¹ (Falling stars) A shower.

(107) 904

*Fiery brands appeared in the heavens; and intermingling stars of unusual brilliance were seen.*¹³² Meteors. The year is unclear.

(108) 908

*Noctis medio visi sunt igniculi in modum stellarum huc illucque per aëra discurrere.*¹³³ (Small starlike fires) A shower at midnight.

(109) 911–924. See DO.

*In aëre visae sunt faces igneae, et stellae micantes discurrentes per nostrum hemispermum, et cum aëris inflammatione non modica.*¹³⁴ (Moving stars) DO provides the date 931, but this report refers to the second burial of Pope Formosus, about 911, and the shower was considered as a forecasting of the Hungarian invasion of Italy and France, so the true date should be advanced some years.

(110) 911, 16 April

*Stellae micantes discurrentesque, praeter consuetudinem sint visae.*¹³⁵ (Running stars) A shower seen after the death of Pope Sergius III.

(111) 912/13 (AH 300)

*Stars were shooting from the fall of darkness until the end of the night.*¹³⁶ A shower seen in Andalusia (presumably, Cordoba).

(112) 913, 13 February

*Stellae miro modo usque ad mediam noctem inter se volitabant.*¹³⁷ (Stars were flying) A shower until midnight.

(113) 917, 1 February

*Ignae acies visae sunt in caelo.*¹³⁸ (Armies of fire) A shower or an aurora.

(114) 919, 1 February

*Per totam fere noctem igneae candidae diversorimque colorum acies visae sunt in coelo, quod mirum fuit visu, alternis se quodam modo ictibus insequentes.*¹³⁹ (Armies of fire) A shower or an aurora.

(115) 921

*Sagitte ignee vise sunt in celo.*¹⁴⁰ (Fire arrows) A shower

(116) 921. See DO.

*Lapides plurimi de celo cadere visi sunt ... Nam et ignite facule de celo plurime omnibus in hanc civitate Romani populi visi sunt, ita ut terra pene contingerent ... Similiter eodem tempore celum ardere visum est ... In qua videlicet flamma tres sumul colonne vise sunt.*¹⁴¹ (Stones fell) According to DO, some meteorites fell during a shower in Rome.

*Visum est in forme bestie in sublimi iuxta aerem, quasi draco immanissimus; cui longitude cernebatur ab aeclessia sancti Eusebii iuxta mecellum parvum pene ad portas Salaria, multis cernentibus per maxima hora.*¹⁴² (A draco in the air) A meteor seen soon after the previous shower.

(117) 922

*Duo in coelo spicula contra se utrimque propinquantia.*¹⁴³ (Darts) Two meteors seen near Cambrai.

(118) 927, March

*Acies igneae Remis in caelo mense Martio.*¹⁴⁴ (Armies of fire) A shower in the morning seen in Rheims, followed by a pest.

(119) 930

*Lumen magnum ab aquilonari et orientali parte paulo ante initium diei apparuit.*¹⁴⁵ (A great light) A meteor that appears before dawn in Rheims.

(120) 934

*Eo tempore apparuere sagittae igneae in Coelo.*¹⁴⁶ (Arrows of fire) A shower. In the same report, a reference to a decrease in the light of the Sun and a reddish sun is made. Two partial eclipses could fit this description: 6 May 924 and 16 April 934. In both of them, the sun set eclipsed. We have chosen the second date as the most likely because the magnitude of the eclipse was around 80 percent in Italy.

(121) 934, 14 October. See DO.

*Apparuerunt signa in coelo de stellis, quod videbatur hominibus aliae cadere, aliae fulgere sicut facula.*¹⁴⁷ (Stars fell, stars like torches) A shower.

*Igneae Remis in caelo acies visae sunt discurrere, et quasi serpent igneus, et quaedam iacula ferri.*¹⁴⁸ (Fire armies, a fire snake, bolts of fire) A shower and a bright meteor seen in Rheims. It was seen as the omen of a pest.

(122) 934, 15 October

*Hubo una lluvia de estrellas fugaces (...) Entre ellas cayó una gran estrella que parecía una columna que procedía del lado de Oriente y se ablanzó contra la Luna de manera que, a simple vista, la partía.*¹⁴⁹ (A shower and a meteor) A shower seen in Andalusia, Southern Spain. Most of the stars were seen going to the west. A very big meteor or bolide coming from the east seemed to cross the disc of the Moon.

(123) 934, 15 October

*Señales grandes se hicieron en el cielo al viento Africo: una puerta de fuego se abrió en el cielo y andaban las estrellas y se movían aquí y allí y más se inclinaban a la parte de Africa.*¹⁵⁰ (Moving stars) A shower seen in several zones of Spain.

(124) 936, 14 February

*Sanguineae acies per totam coeli faciem apparuerunt.*¹⁵¹ (Armies of blood) A shower before dawn.

(125) 937, 24 February

*Sanguineae acies per totam coeli faciem apparuerunt.*¹⁵² (Armies of blood) A shower before dawn.

(126) Tenth century, 939 

*E, el em esto estando, cae unu em seu logar; virom essa noyte viir voando pello aar hüu dragõ muy grande e muy spantoso, dando muy grandes braados: e semelhava que viinha todo cheo de sangue (...) E levava a boca aberta e lançava per ellas chamas de fogo, que semelhava que toda a hoste queria queymar.*¹⁵³ (A dragon, throwing fire through its mouth) A meteor seen in Hacinas in the centre of Spain. This narration corresponds to an event that happened the day before the battle of Hacinas (supposedly in A.D. 939) between the Castilian Count Ferran Gonzalez and Abderraman (Almanzor in some of the texts). Historians quite agree that this battle never took place, but it is very tempting to think that the narrator is, in fact, telling about a very bright meteor that he actually witnessed.

(127) 939, 1 June

*Flamma exivit de mari, & incendit plurimas urbes, & Villas, & homines, & bestias, & in ipso mari pinnas incendit.*¹⁵⁴ (Flame) A bolide that went out of the sea, crossed the centre of Spain and burned many villages and cities.

(128) 944

*Igni globi ferri videbantur in aere, quique nonnullas illic circumvolantes incenderunt domos ac villas.*¹⁵⁵ (Balls of fire) A shower.

(129) 945, 28 April

*Signum quoddam luminis per aera discurrens, cubitum longitudinis habere visum.*¹⁵⁶ (A sign of fire running in the air) Although Kronk¹⁵⁷ states that this is the account of a comet, the description seems to fit a sudden event, so we consider that this is the report of a meteor.

(130) 945, 1 July. See DO.

*Mox lumini globus per aera.*¹⁵⁸ (Ball of light) A meteor.

(131) 950, 951, 952 or 953

*Ignites lapis quasi massa candentis ferri de occidente per aera venit et draco visus est ambulans.*¹⁵⁹ (Fire stone) A meteorite. Several identical reports for the same object dated in different years.

(132) 951. See DO.

*In lo primo anno ch'el fu imperatore un zorno a nona alor si aparia, innumerabele stelle cum fulgore.*¹⁶⁰ (Very bright stars) A shower in the first year of Berengar II of Italy. DO gives year 948.

(133) 956, June. See DO.

*Signum mirabile in caelo apparuit, draco magni scilicet, et sine capite.*¹⁶¹ (Big dragon) A meteor. There is a problem with the dating because the *Annales Floriacienses* provides the same year for a solar eclipse that actually happened on 22 December 968 and a lunar eclipse that took place on 4 September 955.

(134) 961

*Ignitus lapis quasi massa candentis ferri ab occidente volitans venit; et draco visus est.*¹⁶² (Fire stone) A meteor from the west. Dated after the expulsion of Berengar II of Italy by Oton in 961

(135) 973 (AH 362), 25 June

*A star with a huge mass and very strong light rose from the South and continued on to the direction of the north. It lit up the entire horizon and the measurement of its light was above that of dry lighting.*¹⁶³ A meteor seen in Cordoba, Southern Spain, at 3:00 in the morning.

(136) 975. See DO.

*Ignis visus est ferri in aere grossitudem habens ex anteriori parte quasi unius trabis, in quibusdam locis in terram, in quibusdam in silvam, in quibusdam vero in aquam visus est cecidisse.*¹⁶⁴ (Fire) A meteor that seemed to fall in water.

(137) 976, 31 October

*Columna candida nimis apparuit, a terra evecta caput suum usque ad Septentrionalem Stellam erigens, et ex utraque eius parte coelum flammeum sicut ignis coruscabat.*¹⁶⁵ (Flame) A meteor during an aurora. DO¹⁶⁶ considers it an aurora.

(138) 978

*Igniae acies in coelo vise sunt per totam noctem unam.*¹⁶⁷ (Armies of fire) A shower.

(139) 978, 28 October

*Ignae acies in caelo per totam noctem visae sunt.*¹⁶⁸ (Armies of fire) A shower.

(140) 979, 28 October

*Ignae acies visae sunt in caelo per totam noctem.*¹⁶⁹ (Armies of fire) A shower.

(141) 980, 28 October

*Ignae acies visae sunt per totam noctem.*¹⁷⁰ (Armies of fire) A shower.

(142) 991, 5 October

*Apareció en el cielo una Estrella (...) Apareció a la parte de oriente y se fue corriendo entre occidente y norte: de ella se desprendieron varias chispas.*¹⁷¹ (A sparkling star)

(143) 992

*Stellas invicem pugnasse.*¹⁷² (Stars fight among them) A shower.

(144) 996, 29 March

*Draco in nube apparuit in vespere.*¹⁷³ (Dragon) A meteor that appeared after an earthquake in the afternoon.

(145) 998. See DO.

*Duoque lapides igniti ex tonitru ceciderunt.*¹⁷⁴ (Two inflamed stones) Two meteorites fell in Sajonia.

(146) 998, 6 November

*Cum esset in luna defectu, apparuit in Lomensi pago itinerantibus quasi plena per tres horas noctis; quae subito cum magno splendore visa est cadere in terram; et sic defecit.*¹⁷⁵ (Bright gleam) A meteor seen during a lunar eclipse in Belgium.

(147) End of tenth to beginning of the eleventh century

*Lapis magnus cecidit in Corduba, igneus in die sereno, feu claro, et ipse vidit illum alpidem.*¹⁷⁶ (A big stone fell) A meteor that fell in Cordoba.

(148) 1000, 1 January

*El primer dia del año apareció un cometa: y rasgandose al parecer el cielo, corrió por largo trecho sobre la tierra una gran llama, à modo de relampago de grandissima viveza, que tocò a muchos en los campos, y en sus casas: y bolviendo à consolidarse aquella como rotura del cielo, apareció en el aire una espantosa figura, que fue creciendo con cabeza como de serpiente, y pies azules.*¹⁷⁷ (A break in the sky, a figure of a snake) A bright meteor. Other records that describe similar facts with almost exactly the same words in different places and years¹⁷⁸ (see also next account).

(149) 1000, 14 December

*Cometes apparuit ... circa horam 9 fiso caelo quasi facula ardens cum longo tractu instar fulguris illabitur terris, tanto splendore ut non modo qui in agris erant, sed etiam in tectis, irrupto luminæ ferirerunt. Qua caeli fissura sensim evanescente, interim visa est figura quasi serpentis, capite quidem crescente, cum ceruleis pedibus.*¹⁷⁹ (A comet like a torch) The author states it was a comet, but the description fits much better a meteor.

(150) 1002

*Circa solis occubitus draco per aera ferri visus est, et ignae in coelo acies visae.*¹⁸⁰ (Dragon, armies of fire) A meteor near the sun and a shower.

(151) 1003, December

Precedieron algunos pronósticos y señales maravillosas del cielo ... se vio caer del cielo un fuego terrible: y después que el fuego se quitó, quedó en el mismo lugar abierto el cielo: y

*quando se cerro, apareció en la mesma abertura una espantable serpiente, de que fue el temor y espanto increíble.*¹⁸¹ (A terrible fire) A meteor dated before the death of Oton III and Pope Sylvester II.

(152) 1008, 8 April

*Stella paschalis hebdomadae feria secunda media die visa est 6 idus aprilis.*¹⁸² (Star) A bright meteor seen at noon. Dated on Monday the 6 *idus Aprilis*, in the week of Eastern. These data are contradictory, but the chosen date is the one that fits them best.

(153) 1009, 25 March

*Lux magna a multis visa apparuit.*¹⁸³ (A meteor) The date in the annals is 1008, but the meteor was seen the day after the death of Wigbert, bishop of Merseburg who actually died in 1009.



1012 *Cayo del cielo una llama de fuego, en figura de columna o de una gran torre.*¹⁸⁴ (A meteor).

(155) 1014, December 7. See DO.

*Stella multis in media die apparuit.*¹⁸⁵ (A star appeared) A meteor seen during the day. *Thietmari Chron.* Provides the exact date.

(156) 1019

*Visa est trabs ignea in coelo mirae magnitudinis currere super solem iam ad occasum vergentem, & in terram cadere.*¹⁸⁶ (Beam of fire) A meteor seen in the afternoon.

(157) 1020

*Facula ardens et fulgur instar turris cum fragore de caelo cecidit.*¹⁸⁷ (A fiery torch) A meteor.

(158) 1028

*There appeared a sign in the sky like a serpent.*¹⁸⁸ A meteor.

(159) 1029, 31 October. See DO.

*Stella ab occasu versus ortum traicere visa est.*¹⁸⁹ (A moving star) A meteor going towards east.

(1607) 1031

*Inter caeteras stellas ... vidit quoddam sidus exsurgere, eo quo aestivo tempore solet horam diei primam sol demonstrare. Quod exsiliens de sui ortus loco virtute divina coepit ferri velociter per aera, petens coeli eminentiora loca, pene usque ad illud punctum quo ea tempestate solet fieri hora sexta.*¹⁹⁰ (A star moving in the air) A meteor that crossed the sky towards the zenith.

(161) 1031, 28 February. See DO.

*Stella a septentrione versus meridiem traiecit cum sonitu ac fragore.*¹⁹¹ (A moving star) A meteor going from north to south followed by a thunder.

(162) 1031, 28 July. See DO.

*Stella traiecit a meridie versus septentrionem, quae terram totam fulgore illustraret.*¹⁹² (A moving star) A meteor seen from south to north soon at night.

(163) 1032

*Subito viderentur ambo stellam longissimam, ac similitis hastam, in fronte cadere. Cum autem turbati essent, cecidit secunda: plus mirantibus et stupentibus, cecidit tertia.*¹⁹³ (Three stars fell) Three meteors.

(164) 1033, 19 April

*Visae sunt multis per multa loca in altitudine aëris igneae acies, prodigioso visu corda se intuentium perterrentes.*¹⁹⁴ (Fire armies) A shower.

(165) 1033, 29 April. See DO.

*Stella ... traiecit, fulgore suo luminibus omnium aliarum stellarum osticiens, ita ut multi opinarentur solem oriri.*¹⁹⁵ (A moving star) DO does not provide an exact date, but it is possible to calculate it from the context.

(166) 1038, April

*Maxima ignea trabes.*¹⁹⁶ (Beams of fire) A shower.

(167) 1039, 6 April. See DO.

*Visa est in celo inter australem et orientalem plagam ignea trabes mirae magnitudinis, quae currens super solem iam ad occasum vergentem, visa est in terram cadere.*¹⁹⁷ (Burning beam fell) A meteor.

(168) 1043

*Viderunt stellas cadere in fronte qui sub castro erat.*¹⁹⁸ (A star fell) A meteor.

(169) 1044

*Visa sit a suis stella Phosphorus, quae et Lucifer, vespere sursum atque deorsum agitari, quasi comminans terrigenas idemtitabat.*¹⁹⁹ (Luminous star shaking) A meteor seen at Rheims.

(170) 1046

*A burning torch or shaft resembling a tower descended from the sky with a great roar.*²⁰⁰ A meteor followed by a thunder.

(171) 1046, November

*Cecidit de coelo, quod Graece dicitur selas, vel chasma, seu palmatias, dum fulgor aetherei splendoris insolito ad terras emittitur; insulsum enim vulgus perhibet stellam de coelo cadere.*²⁰¹ (A star fell) A bright meteor, seen during the day.

(172) 1057, 20 May

*Tempore huius stella clarissima in circuitu prime lune ingressa est ... in noctis inicio.*²⁰² (A bright star entered the moon) Maybe a meteor. G. W. Collins²⁰³ states that it can be a report of the A.D. 1054 supernova. In our opinion, this is unlikely. In the first hour of the night of 20 May 1057, the Moon and Antares were only about 1° apart. The author of the report may either refer to this proximity or to a meteor that crossed the almost full moon.

(173) 1059

*Trabs ignea in coelo visa est mirae magnitudinis ad occasum vergere, & ad terram cadere.*²⁰⁴ (Beam of fire) A meteor.

(174) 1077, 9 April

*Sereno celo stella apparuit.*²⁰⁵ (A star appeared) A meteor at noon was seen near the sun.

(175) 1088. See DO.

*Globi ignei in caelo emicuerunt, rursumque alia in coeli parte se condiderunt.*²⁰⁶ (Balls of fire) A shower. DO gives year 1067, but this does not suit the context, after the death of Gregory VII and the enthronement of Pope Urbanus II.

(176) 1089. See DO.

*Baculus igneus visus est per coelum ferri, quia magnus erat.*²⁰⁷ (Burning stick) A meteor.

(177) 1091

*An enormous serpent fell down from the sky and everybody was terrified. At the same time, many heard several thumps in the ground.*²⁰⁸ A meteorite.

(178) 1091, 24 February

*Et rursum mediis noctibus a septentrione ignei saepius surrexere splendores et plerumque per aerem visae sunt faculae volitantes.*²⁰⁹ (Torches of fire) A shower at midnight. It was also seen at noon.

(179) 1091, April. See DO.

*Stellae innumerabiles de celo quasi pluere prope diem versus occidentalem plagam celi ubique terrarum.*²¹⁰ (Innumerable stars fell like rain) A shower in the west. DO does not provide the month, but it is included at the end of the original report.

(180) 1092, 1 August

*Stella clara et velut trabes magna, ab oriente in occidente visa est transcurrere per aquilonem.*²¹¹ (Moving star like a great beam) A meteor from east to west. DO states that this is the same meteor as the one seen in 1093, but the different contemporary responses to these phenomena make us think of the possibility of different meteors seen on the same day in different years.

(181) 1093

*Visus est splendor quasi facula volans per aerem ab oriente in occidente.*²¹² (Flying torch) A meteor from east to west.

(182) 1093, April. See DO.

*Visae sunt a multis quasi in unum stellae in occidente cadere de coelo.*²¹³ (Falling stars) DO does not provide the month.

(183) 1093, 1 August

*Per caelum ferri visum est kalendis augusti, prima hora noctis.*²¹⁴ (Inflamed javelin) A meteor from south to north in the beginning of the night.

(184) 1093, 23 September

*Draco visus est.*²¹⁵ (Dragon) A meteor seen during the partial solar eclipse.

(185) 1094

*Visus est igneus draco volare per aerem.*²¹⁶ (Flying dragon) A meteor.

*Eodem anno mirabilis pertransivis in universum mundum ignis.*²¹⁷ (A fire) See DO.

*Vers le même temps, un si grand nombre d'étoiles parurent tomber du ciel, qu'on ne pouvait les compter: Une des plus grosses d'entre ces étoiles tomba en Gaule, au grand étonnement des gens du pays, qui, ayant versé de l'eau à l'endroit qu'ils avaient remarqué, virent sortir de terre de la fumée accompagnée d'un bruit sourd: ce qui redoubla leur surprise.*²¹⁸ (Stars fell) A shower and a meteorite seen in France. See DO.

*1094 was remarkable for the number of gliding stars, that seemed to dash together, in manner of a conflict.*²¹⁹ Showers.

(186) 1094, 31 March



*Stelle innumerabiles ceciderunt et quasi pluere vise sunt per totum orbem.*²²⁰ (stars fell like rain) A rain, possibly the 31 of March.

(187) 1094, April

*Stellae de Coelo innumerabiles quasi pluere mense Aprili prope diem versus occidentalem plagam coeli, ubique terrarum.*²²¹ (Stars fell like rain) A shower seen in the west.

(188) 1094, 4 April

*Stelle a multis vise sunt de celo cecidisse.*²²² (Stars fell) A shower seen in the morning.

(189) 1094, 1 August

*Ignis magnus apparuit.*²²³ (Fire) A meteor in the afternoon

*Draco igneus volare per aurem visus est.*²²⁴ (A dragon)

(190) 1095. See DO.

*Stelle vise sunt de celo cadere.*²²⁵ (Stars fell) A shower.

*Stellae ceciderunt et mox ultramontani ultra mare catervatim ire coeperunt.*²²⁶ (Stars fell) A shower.

*Stellae visae sunt de coelo cadere, ita spissae, quod numerari non poterant.*²²⁷ (Stars fell) A shower.

*On vit, pendant un certain nombre de nuits, comme pleuvoir du ciel des étoiles en grande quantité, semblables à des gouttes de pluie.*²²⁸ (Stars fell) A shower seen in successive nights.

*Stellae visae sunt discurrere per aerem in Galliis tam densissimè quasi grando esset, motionem populi designantes.*²²⁹ (Running Stars) A shower.

(191) 1095, April

*Stellae innumerabiles de caelo quasi pluere visae sunt.*²³⁰ (Stars fell like rain) A shower in the west.

(192) 1095, 2 April

*Fuit terribile signum in stellis, ita quod a medie noctis tempore usque mane visae sunt innumerae stellae mixtim ex omni parte Coeli decurrisse, et in terram decidisse.*²³¹ (Terrible signs, stars fell) A shower at midnight.

(193) 1095, 4 April. See DO.

*Stellae perplures simul de caelo in terram cecidisse visae sunt.*²³² (stars fell) A shower soon in the morning.

*Stellae innumerabiles de coelo versus occidentalem plagam ubique terrarum cadere visae sunt.*²³³ (Stars fell) A shower. There are several versions of this event. In some of them, the shower lasted 1 hour; others state that it began with the sunset and lasted a quarter of the night, and in other cases, it began at midnight and lasted till dawn.

*Stelle de coelo cadere et quasi pluere visae sunt.*²³⁴ (Stars fell like rain)

*Nearly over all this land, and almost all the night, numerous and manifold stars were seen to fall from heaven; not by one or two, but so thick in succession, that no man could tell it.*²³⁵

*Ab inumeris inspectoribus visus est tantus stellarum discursus, ut grando nisi luceret, pro densitate purarentur. Multi etiam stellas cecidisse opinati sunt.*²³⁶ (Stars fell)

*Sellarumque occasio.*²³⁷ (Star event)

*Stella spissim quasi pluvea de coelo pluere visae sunt.*²³⁸ (Stars fell like rain) A shower.

(194) 1095, 5 April

*Subito visi sunt igniculi cadere de coelo quasi stellae per totam Apuliam, qui repleverunt universam superficiem terrae.*²³⁹ (Small fires) A shower.

(195) 1095, 6 April

*Visae sunt stellae cadere de coelum in modum facis.*²⁴⁰ (Stars fell) A shower.

(196) 1095, May

*On vit tomber plusieurs étoiles.*²⁴¹ (A lot of stars fell) A shower.

(197) 1095, 4 August

*Llovieron exalaciones á modo de estrellas, con espanto de los hombres.*²⁴² (Exhalations like stars rained) A shower.

(198) 1096. See DO.

*Species ignis in modum fulguris ad longitudinem hastae formatus, sed latior, clarissime die et in ipso solis fulgore discurrens ... Super haec quadam die ... ignei quasi globis diversis aeris in locis emicuerunt.*²⁴³ (Species of fire, balls of fire) A shower.

*Diversis in locis globi, ut videbatur, ignei emicuerunt, rursumque alia in celi parti se recondiderunt.*²⁴⁴ (Balls of fire) A shower in the afternoon.

*Des étoiles parurent tomber du ciel du côté de l'Occident, en signe de confusion et de carnage.*²⁴⁵ (Stars fell) A shower.

*Ceciderunt stelle de celo in terram, ad modum grandinis.*²⁴⁶ (Stars fell like hail) A shower seen in France.

(199) 1096, April

*Visae sunt praeterea non multo post tempore, mense Aprili stellae noctu, ac si pluvia dense de coelestibus labi.*²⁴⁷ (Stars fell) A shower.

(200) 1096, 4 April. See DO.

*Visae sunt pene omnes stellae currere quasi pulvis, cum fertur a vento.*²⁴⁸ (Stars moved) A shower from midnight till dawn.

*Stellarumque occasio.*²⁴⁹ (Star event)

(201) 1096, 5 April

*Visae fuerunt in multis locis frequenter in illa nocte stellae, quae ceciderunt de coelo.*²⁵⁰ (Stars fell) A shower.

(202) 1096, 6 August

*Luna 12 obscurata est, cum coelom serenum esset, et stella clarissima venit in circulum lunae 8 Id Augusti.*²⁵¹ (A star) On 6 August, there was a lunar eclipse, but no occultation, although Jupiter was at about 1° of distance of the Moon. There are two possibilities: either it was a meteor that crossed the lunar disk, or the register refers to an occultation that happened 1 year before, on 3 August.

(203) 1096, 7 August

*Apparuit signum crucis in coelo.*²⁵² (Cross in the sky) A meteor.

(204) 1096, 22 September

*A blazing star was seene, and for the space of xv dayes after, the greatest bulk there of pointed towards the east and the lesser towards the west. There were also starres seene, shich did, as it were shoote out bartes one at another.*²⁵³ (A fire star) A meteor and a shower. There is no report of any comet for this year or any nearby year. In addition, the author states that the stars seem to fight.

(205) 1097

*Ceciderunt stellae de coelo in terram ad modum grandinis.*²⁵⁴ (Stars fell) A shower.

(206) 1097, 27 September

*Eo anno via ignea per totam noctem in coelo apparuit.*²⁵⁵ (Fiery path) A shower.

(207) 1097, October

*Apparuerunt et aliae stellae, quasi jacula inter se emittentes.*²⁵⁶ (Stars throwing themselves forth) A shower associated with a comet that was first seen on 1 October for 15 days (2 October in *Radulphi de Coggeshale*).

(208) 1098

*Stelle vise sunt de celo cecidisse.*²⁵⁷ (Stars fell) A shower, possibly in August.

(209) 1098, April. See DO.

*Stelle innumerabiles de celo quasi plueret.*²⁵⁸ (Stars rained) A shower.

(210) 1098, 4 April

*Stellae de celo cadere visae sunt.*²⁵⁹ (Stars fell) A shower that lasted the whole night.


(211) 1098, 28 June. See DO.

*Visi sunt etiam a nonnullis angeli in aere volitantes, et super Turcos fugientes ignem flamineum jaculantes.*²⁶⁰ (Several angels flight) According to the author, a shower during the battle of Kerbala, in the first Crusade.

(212) 1098 September, about 15

*Il leur sembla que toutes les étoiles du ciel se réunissaient en un groupe serré, sur un espace large d'environ trois arpents, toutes scintillantes, rassemblées en forme d'un globe de feu, brillant, d'une clarté brûlante, comme des charbons ardents entassés dans une fournaise : après avoir longtemps brûlé de cette manière, elles s'éclaircirent peu à peu et formèrent comme une couronne, élevée au pôle même de la ville ; et, après avoir demeuré longtemps encore réunies en cercle et sans se diviser, elles rompirent enfin la chaîne sur un point de ce cercle, et suivirent toutes la même voie.*²⁶¹ (Moving stars) Maybe a shower or a vision.

(213) 1098, 26 September

*Coelum apparuit rubicundum.*²⁶² (Red sky) Not necessarily a shower, but taking into account the next report , we should consider this possibility. **IAQ: 31**

(214) 1098, 27 September

*Ut tota pene illa nocte magna pars celi sanguinea appareret; nec rubor ille in uno tantum loco permansit, set omnes partes celi praeter meridiem pervagavit, multique quasi solis radii de eodem rubore videbantur procedere.*²⁶³ (Miraculous sign) The sky was red as blood. It could be an aurora, but the next report seems to point to a shower.

*Eo anno via ignea in celo apparuit V. kalendas Octobris a prima noctis vigilia usque circa matutinum.*²⁶⁴ (Road of fire) A shower that lasted all night.

(215) 1098, June

*Marvelous sign in the sky, for during the night there stood over the city a very large star, which, after a short time, divided into three parts and fell in the camp of the Turks.*²⁶⁵ Some meteors or a vision.

*On vit du côté de l'Occident un feu du ciel qui tomba sur le camp des ennemis.*²⁶⁶ (Fire of the sky) A meteor.

(216) 1099

*Ut coelum stellas velut aquam plueret, & signum comatae stellae suos ignes monstraret, & coelum in parte septentrionali velut ardere omnibus appareret.*²⁶⁷ (Stars fell like rain) Showers and signals that preceded the fall of Jerusalem.

(217) 1099, 24 February. See DO.

*Stellam aliam in orientem locum suum longo intersticio saltibus mutantem ... plerumque etiam faculas per aere volitantes vidisse nos, testibus conprobamus. ... Die quadam advesesrascente, nilla in aere apparente nubecula, diversis in locis globi apparere ignei, rursumque in alia celi parte se reconsiderunt.*²⁶⁸ (Torches flying, balls of fire) A shower. DO does not provide date, but it is included in the original text.

(218) 1099, 27 October

*Eo anno via ignea per totam noctem in celo apparuit.*²⁶⁹ (Fiery path) A shower.

(219) 1101. See DO

*Visus est ab occidente in orientem volans ignis.*²⁷⁰ (A flying fire) A meteor flying from west to east.

*Visus est stellae cadere de celo.*²⁷¹ (Stars fell) A shower.

(220) 1102, 2 August

*Ceciderunt fulgura in multis locis.*²⁷² (Lightning fell) A shower, seen specially in Turin. This could be the account of either a big storm or a Perseids shower.

(221) 1105, 24 December

*Enes dages er deme heiligen avende to winachten ward gesên uppe dat westen under den sternem en also grot viur bernen, also of it de sunne were, of it in deme ostende gesên were.*²⁷³ (An astre that becomes as big as the sun) A meteor seen the afternoon before Christmas.

(222) 1106, 12 February. See DO.

*Stellae visae sunt in caelo per diem, modo quasi concurrentes inter se, modi veluti cadentes in terram.*²⁷⁴ (Falling stars) A shower that lasted days seen in Bari.

*Stellae de celo pluries vise sunt.*²⁷⁵ (Stars rain) Due to an error of the copyist, *pluries* should be read as *pluere*.

*En París se vieron en medio del día unas estrellas que unas con otras se encontraban y luego en tierra se caían y desaparecían.*²⁷⁶ (Stars fell) A diurnal shower seen in Paris.

(223) 1106, 16 February. See DO.

*Visus est etiam globus igneus tercia quidem nocte ab eadem stella in terram cadere.*²⁷⁷ (Ball of fire) A meteor detached from a comet.

(224) 1106, March

*Stellae coeli pluere visae sunt.*²⁷⁸ (Stars rained) A shower at midnight.

(225) 1110, 11 February

*A fiery pillar appeared which extended from the earth to the sky and the lightning illuminated all the country and it thindered in the sky in the first hour of the night.*²⁷⁹ A meteor seen in Kiev and regarded as a miracle.

(226) 1112

*Caída de Meteoritos ferruginosos en Aquilea.*²⁸⁰ (Meteorites) Iron meteorites that fell in Aquilea, in Italy.

(227) 1114

*There was many stormes, and a blazing starre.*²⁸¹ A meteor.

(228) 1117

*Aer visus est igne pariter et sangwine mixtus.*²⁸² (Blood and fire mixed in the sky) A shower or maybe an aurora.

(229) 1117, December

*Decembris affuerunt et in eodem mense celum rubens aesi arderet apparuit.*²⁸³ (Sky burns) Again a shower or an aurora.

(230) 1117, 16 December

*Ignae acies a septentrione in orientem in caelo apparuerunt; deinde per totum caelum sparsae, plurima noctis parte videntibus miraculo et stupori fuerunt.*²⁸⁴ (Armies of fire) A shower at the beginning of the night that lasted for a long time.

(231) 1119

*Stellae et innumerabiles cadere et quasi pluere vise sunt per totum orbem.*²⁸⁵ (Stars fell) A shower.

(232) 1121

*Visa est in caelo spera ardens quasi flamma ignis.*²⁸⁶ (Ball of fire like a flame) A meteor.

(233) 1122, 31 March

*Stellae innumerabiles visae sunt cadere per totum orbem pridie Kal. Aprilis hora matutina.*²⁸⁷ (Stars fell) A shower in the morning.

(234) 1122, 4 April. See DO.

*Stellae de coelo innumerabilis cadere et quasi pluere visae sunt.*²⁸⁸ (Stars fell) A shower seen from 3 to 6 hours at night.

(235) 1123

*Hoc etiam anno stelle densissime de caelo vise sunt cecidisse.*²⁸⁹ (Stars fell) A shower.

(236) 1123, 4 April. See DO.

*Stelle innumerabiles quasi pluere visae sunt per totum orbem.*²⁹⁰ (Stars fell like rain) A shower soon in the morning.

(237) 1123, 5 April

*Visae sunt stellae cadere de coelo.*²⁹¹ (Stars fell) A shower. DO gives the  of April.

(238) 1123, 13 April

*Vidisse se quasi stellas innumeras de celo cadere, in tantum ut pluvie guttas et multitudine et casiubus [viderentur] imitari.*²⁹² (Stars fell) A shower seen in the night of the Holy Friday.

(239) 1123, November

*Per universum orbem aerie potestates quasi plurimae stellae etsi non ceciderunt, visae sunt tamen cecidisse iu terram.*²⁹³ (Stars fell) A shower.

(240) 1125. See DO.

*Quadam nocte nimius splendor ut ignis visus est a multis de caelo cecidisse.*²⁹⁴ (Extraordinary splendour like a fire) A meteor.

(241) 1128

*Fiery rays appeared in the heavens and spread throughout the sky. Stars fell to the earth, and when water was poured on them they gave a loud sound.*²⁹⁵ A shower. Some incandescent stones reached earth.

(242) 1128, 9 November

*Eclipsis lunae rubea ... multae stellae circumdederunt eam, quarum una circumvolavit lunam, altera proiecit se ad aquilonem.*²⁹⁶ (Stars moving around the moon and falling) A shower during a lunar eclipse.

(243) 1130

*Signum ad similitunem draconis vespertina hora per multas provincias in aere visum sunt.*²⁹⁷ (Signs like dragons) Meteors in the night.

(244) 1130, 25 April. See DO.


*Immensum signum apparuit, et tonitruum horribile auitum est.*²⁹⁸ (Immense sign) A meteor.

(245) 1130, 8 October. See DO.

*Quoddam monstrum ad similitudinem serpentis uno momento, scilicet circa occasum solis, visum est volare per totam Bohemiam et per plurima alter loca. Post haec autem aliud signum visus est a quibusdam nimis lucidum matutinali hora.*²⁹⁹ (A certain monster) A meteor seen in Bohemia around the sunset. DO gives erroneously 15 October.

(246) 1135

*Lapis mirae magnitudines ... per aera descendit, cuius sonitus praecedentium trium dierum spatio ab iacentibus circa locum illum hominibus auditus est; hic posquam deorsum decedit, dimidia pars sui in ima terrae descendit, atque triduo fervidus tamquam chalebs ex igne retractus iacuit.*³⁰⁰ (A Stone of marvelous proportions) A meteorite fell in Thuringia, in Germany.

(247) 1136, January 

*Lapis unus magnitudinis capitis hominis iuxta locum Olteleibon abbatiam cecidit de nubibus.*³⁰¹ (Stone) A meteorite that fell in Alsleben, East Germany.

*Ignée acies in celo vise sunt.*³⁰² (Armies of fire) A shower.

(248) 1136, May

*Visum est desuper civitatem in aere quoddam in modum scalae transvolare, niveo quidem corpore, sed rubro rutilare capire.*³⁰³ (Something like a ladder) A meteor.

*Se vidisse quasi crucem rubeo colore coruscam de coelo ad terras descendisse, et non procum a terra aliquamdiu in aere pependisse; sed rursus ad coelos remeante, tant lucis aer resplenduit claritate, ut nullus intuentium ad hanc perspicendam, tamquam solis contra radium visum praevaleret obtinere.*³⁰⁴ (Like a scintillating cross) A meteor.

(249) 1137, October. See DO.

*Signum apparuit in coelo mense Octobri et magnam partem noctis coelom ardere visum est quasi pre nimio rubore.*³⁰⁵ (Sign in the sky) Probably a meteor.

(250) 1138, 26 February. See DO.

*Signum modum serpentis post occasum sole per tota Bohemiam volare ad occidentalem plagam visum est, ipsumque subito evanescens, signa quasi rubea post se reliquit.*³⁰⁶ (A certain sign like a snake) A meteor seen in Bohemia after the sunset.


(251) 1138, 11 May

*In aquilonali plaga rubea signa in coelo in modum columnarum apparuerunt, quae in duas partes divisa, quasi certantia modo concurrere modo refugere videbantur.*³⁰⁷ (A sing in the sky like a column) A meteor.

(252) 1138, 7 October

*It commenced a large quarter of the heavens was seen to emit fiery sparks like a furnace, and balls of fire of wonderful brightness, like the sparks of live coals, shot through the air in more places than one.*³⁰⁸ A shower that foresaw a great battle.

(253) 1138, 20 October

*Ingens rubor fere tota nocte apparuit in celo, et in ipso rubore vise sunt flamme instar cometarum longas comas protrahentium.*³⁰⁹  hmes) A shower during a lunar eclipse.

There were two Lunar eclipses this year, both of them were partial. The most likely is the one on 20 October (13 Kal. November) that could fit the partial date given in the reference. **[AQ: 4]**

(254) 1143, 15 June. See DO.

*Ignitus lapis quasi massa candentis ferri cecidit de celo.*³¹⁰ (Inflamed stone) A meteorite that fell on Mount Brisach.

(255) 1144

*There was a sign across the river Dniepr, in the vicinity of Kiev. Something like a fiery circle flew across the sky toward the earth and in its place a sign was left like a great serpent. It remained in the sky for one daylight hour, and then gradually disappeared.*³¹¹ A meteor near Kiev.

(256) 1147, 15 March

*Siquidem quedam stella magna ardens ut facula, discurrens per celi plana a parte dextera, prolapsa est in mare, maxime illuminans superficiem terre.*³¹² (A big star like a torch) A meteor that fell in sea before the conquest of Santarem, in Portugal.

(257) 1147, 18 March

*Apparuit prodigium, portendens eorum in tercia nocte futurum excidium: Namque viderunt media die quasi quendam colubrum ferri per celi medium comis ignitum a cauda usque ad caput.*³¹³ (A sign like a snake) Three days after the conquest of Santarem, a meteor was seen and regarded as a sign of the change of the king in the city.

(258) 1150

*Ignée acies.*³¹⁴ (Armies of fire) A shower.

(259) 1152, 16 July. See DO.

*Fulgor nimius et postea quasi draco visus est in coelo discurrere ab occidente in orientem.*³¹⁵ (A great gleam) A meteor from west to east.

(260) 1153, 29 December. See DO.

*Splendor nimius in nocte apparuit.*³¹⁶ (A great splendor) A meteor.

(261) 1161, 5 June

*Cae del cielo una masa de hierro o aerolito en Misnia.*³¹⁷ (An iron mass) A meteorite that fell in Meissen, Eastern Germany.

(262) 1168, 16 February. See DO.

*Globus igneus visus est per aere discurrere.*³¹⁸ (Ball of fire) A meteor seen after an earthquake. DO does not provide date.

(263) 1169

*Visi sunt ignei globuli e coelo cadere in singular castra Britanniae.*³¹⁹ (Balls of fire) A shower.

(264) 1173, 11 February

*Acies igneae apparuerunt in coelo de nocte.*³²⁰ (Armies of fire) A shower.

(265) 1178, 18 June

*On the 18th of June, after the sun-set, the new moon then shining out fair, with her horns to the east, on a sudden, seemed to be divided in two, out of which there appeared to rise a burning brando, casting forth sparks and flames, as if it had been on fire.*³²¹ This well-known event was currently considered as a transient Moon phenomena, but some scholars have recently doubted this assumption,³²² and today it is mostly considered as an atmospheric explosion of a directly oncoming meteor in chance alignment.

(266) 1179, 1 August

*Stella juxta solem visa est.*³²³ (Star) A meteor seen near the sun at midday, after an earthquake.

(267) 1183

*Novus & mirabilis ignis in Coelo apparuit in Crucis effigiem.*³²⁴ (Fire) A meteor that appeared like a cross in the sky.

(268) 1187, Summer. See DO.

*Globi scintillarum magnu agmine et longo tractu se sequentes prope terram visi sunt.*³²⁵ (Sparkling balls) Meteors.

*Se pluries vidisse Domum igneam per aëra discurrere.*³²⁶ Meteors.

(269) 1189, 24 February

*Ignis de coelo visum est per multa loca.*³²⁷ (Fire of the sky) A shower, it was seen in several sites.

(270) 1192

*Eodem anno ignis in aere visus est per totam Galliam nocte.*³²⁸ (Fires in the sky) Meteors.

(271) 1192, 15 January

*Visa est a multis species ignis terribilis, totum orbem ad partem borealem occupans. Subsecuta est in multis locis in partibus illis plaga ignis divini.*³²⁹ (Terrible fires) A shower soon after the sunset.

(272) 1193

*Ignis in coelo etiam hoc anno visus est magnus et mirabilis cum stellis intermicantibus.*³³⁰ (Fire in the sky) Meteors.

(273) 1194, 24 April.

*Un corps lumineux parut au milieu d'un ciel serein, à quelque distance du soleil.*³³¹ (A luminous body) A meteor seen near the sun in the morning.

(274) 1198, 6 June

*Visa est stella lucidissima concurrentibus nobis in curiam episcopi.*³³² (A very bright star) A meteor seen about 3:00 in the afternoon. It was seen as an omen of the choice of Otto IV as King of Germany in Cologne.

(275) 1202

*Etiam stellarum visa est in eadem provincial maxima dimicantium pugna, quarum septentrionales de orientalibus victoriam detinebant.*³³³ (Stars fighting) A shower.

(276) 1202, 6 September. See DO.

*Ignis visus est quasi draco ciscurrens per aëra.*³³⁴ (A fire almost like a dragon) A meteor.

(277) 1202, 12 October

*Movimiento continuo de estrellas vagas ó cadentes.*³³⁵ (Falling stars) A shower that lasted the whole night.

(278) 1202, 18 October

*Some people saw the streaming of the stars in the sky; the stars tore themselves off and fell toward the earth.*³³⁶ A shower.

(279) 1204, 1 April. See DO.

*Rubor apparuit in coelo tamquam ignis ... et duravit usque at noctis [medium], et in tanto rubore visae sunt stellae.*³³⁷ (Sparkling stars) A shower during an aurora seen in Suffolk, East of England.

*Rubor in caelo apparuit in parte aquilonali et orientali, ut borealis verus ignis ab omnibus crederetur. Et quod mirandum est, in ipso rubore vebementissimo stellae micantes apparuerunt.*³³⁸ (Sparkling stars)

(280) 1204, March

*Visum est a parte septentrionali nocturno tempore tanto rutilare rubore, acsi penitus igne flammesceret, et amplissimum celi spatium occupans, quasi quiddam motabile discurrere videbatur.*³³⁹ (Inflamed fire) A shower or maybe an aurora.

(281) 1204, May–June

*Celum per totam noctem quasi ab igne rubicundum apparuit.*³⁴⁰ (Sky like fire) Meteors of auroras seen between Eastern and Whit Sunday

(282) 1214, 13 January. See DO.

*Globus igneus magnitudinem bovis excedens, et magnum lucem emittens, visus est in aere circa diei initium.*³⁴¹ (Ball of fire) A meteor seen at dawn.

(283) 1215, 1 February

*There was thunder during the early morning service, and everybody heard it, and soon after that they saw a flying serpent.*³⁴² A meteor.

(284) 1216, 30 January. See DO.

*Visae sunt a plurimus diae stellarum cohortes ab orientem et occidente sibi occurrentes in portentuosam concentrationem sibi commisceri; una grandi stella sese in medio earum immobilem contienete. Cumque diutius haec pugna moraretur, tandem orientalibus stellis in sua cedentibus, certamen finitum est.*³⁴³ (A swarm of stars) A shower.

(285) 1233, June

*In the fouth parts of Englād neare to the sea coast two huge dragons appeared fighting in the aire, and after a long fight the one overcame the other; and followed him, fleeing into the depth of the Sea, and fo they were seene no more.*³⁴⁴ Two meteors.

(286) 1239, 24 July. See DO.

*Apparuit stella maxima ut facula, surgens ab Austro et volans non in sublimen nimis e jaculabatur in aerem et bendeat versus Aquilonem per tractus aereos, nec raptim nec valde velociter, sed sicut sole nisus volare.*³⁴⁵ (Big star like a torch) A meteor going to the north.

(287) 1240

*Miravilis flama ignis fulvi coloris de coelo ab ortu Solis veniens, supra palatium Regium apparuit velut fulgur.*³⁴⁶ (A flame) A meteor from the east that appeared the day before Pere III of Aragon was born.

(288) 1241, 11 July. See DO.

*Figura ignea ad modum draconis visa est in aere volitare ab ortu in occasum, habens caput magnum et splendidum et corpus obolongum et grossum cum cauda gracile et rubea, cuius longitude videbatur ad quadraginta cubitus extendi ... Non multum post temporis apparuit non minoris quantitatis forma ignea ab ocase solis in ortum volans circa crepusculum noctis, que cito disparuit.*³⁴⁷ (Fire form like a dragon) Two meteors. One in the morning, the other in the afternoon.

(289) 1242, 28–29 May

*Viò el Rey una imensa luz que baxava del Cielo, y llenava la redondez de la tierra.*³⁴⁸ (Immense light) A meteor.

(290) 1243, 23 July

*Vise sunt stelle cadere de celo.*³⁴⁹ (Stars fell) A shower.

(291) 1243, 25 July. See DO.

*Discursus syderum de nocte uisus est ... ita ut unum contra alterum quasi hostem insurgerent, et inter se hostiliter dimicarent.*³⁵⁰ (Running stars) A shower.

(292) 1243, 26 July. See DO.

*Et ecce stellae cadere de coelo videbantur; velociter sese jaculantes hac et illac.*³⁵¹ (Stars fell) A shower.

*Starres were séene fall from the skie after a maruellous sort, not after the common manner; but thirtie or fortie at once, so fast one after another and glansing to and fro, that if there had fallen so manie verie starres in deed, there would none haue béene left in the firmament.*³⁵² A shower.

(293) 1244

*Unde, si verse stellae fuissent, quod nullius sapientis est sentire, nee una in Cielo remansisset.*³⁵³ (Stars fell) A shower. See DO.

(294) 1245, 17 July. See DO.

*Stella quedam ardens et ignea in vesperis ante ocassum solis vista est ab oriente consurgere et velocissimo cursu, tamquam ardens facula aut sagitta volans, quasi sciendo celum, ad partes occidentales concurrere.*³⁵⁴ (A star fell) A meteor before sunset. It ran from east to west.

(295) 1245, 29 September

*Viderunt quidam in tempesta noctis hora in oriente surgere lucen clarissimam, quasi solem, et tandem evanescere per aerem, et in colorem rubeum, hominum permixta specie, permutatan.*³⁵⁵ (A bright light) A meteor.

(296) 1247, 7 January

*Visus est ignis radius magnus in aere ... et dum videretur radius iam vicinus terre divisus fuit in duas partes et statim edanuir ab oculis. Et hoc fuit post vespertinos ... celo sine nube solisque splendore ... decorata et visus et fuit volum magnum frustrum ferri candentis de fornace ignis exeantis sagitas igneas emitentis, sonito inauditis in modum sartaginis bullentis.*³⁵⁶ (A big lighting in the air) A bolide.

(297) 1247, August

*Visa est a pluribus cadere maxima quedam stella de celo in parte septentrionali.*³⁵⁷ (A great star fell) A meteor that fell in the north.

(298) 1250. See DO.

*Una noctium visas sunt stelles cadere, ita quod semel x. vel amplius.*³⁵⁸ (Stars fell) A shower.

(299) 1252, August

*Stellam quandam in hora matutina vidisse magnam, ut foret cometa –sed cometa non erat, non enim habebat comam- in hoc autem erat eius miraculum, quia videbatur fere magna ut luna et habebat cursum multo velociorem quam luna, set nec erat cita more cadentis stelle, et vere nec luna fuit; visa quoque per unius hore spacium evanuit paulatinum.*³⁵⁹ (A great star) A meteor seen in the morning.

(300) 1254, October (around 18th)

Vino un fuego del Cielo, è cayó antel Rey en la Glera de Burgos, è fizo gran sueno. (A fire from the heaven)³⁶⁰ A meteor that fell in front of the king in Burgos, in Spain. It made a big noise

(301) 1255

*Eodem anno descendit ignis de celo.*³⁶¹ (Fire of the sky) A meteor or a shower.

(302) 1264, 20 June

*A notable blazing starre appeared, such a one as bad not beene seene in that age, which rising from the East with great brightnesse onto the midst of the Hemisphere brewe his breae, it continued till after Virbselmas.*³⁶² A meteor.

(303) 1265, July

*E apparvero in quello anno grandi segni nell'aria; fu una Stella, che faceva grande fummo per l'aire.*³⁶³ (A star that left smoke) A meteor or maybe a wrong date for the 1264 comet.

(304) 1277, August and September

*Et ignis cecidit de coelo, in fine Augusti et mense Septembri, in multis locis.*³⁶⁴ (Fire fell from the sky) Showers.

(305) 1280

*During the same year there was a sign in the sky. A fiery cloud appeared in the west, and sparks fell from it to the ground. It remained visible for a little while and then disappeared.*³⁶⁵ A shower.

(306) 1280, 14 January

*Apparuit quedam stella clara et lucida versus orientem.*³⁶⁶ (A clear and bright star suddenly appeared) A meteor in the east appeared in the afternoon. It was seen as an omen of an earthquake.

(307) 1280, 18 March. See DO.

*Mox draco aspect terrifico, cauda longissimi per aethera olitare visus est.*³⁶⁷ (A dragon flying) A meteor

(308) 1283, 8 January

*Visa est stella clarissima in Lemovicensi dioecesi in prima parte noctis, quae movebatur velociter; lineariter non circulariter; et non multum distabat a terra.*³⁶⁸ (A quick star) A meteor seen in Limoges, France.

(309) 1284

*Viderunt dias magnas stellas mutuo preliantes, & retrahebant se multis vicibus, & iterum atque iterum mutuis congressibus dimicabant.*³⁶⁹ (Stars fighting) Meteors.

(310) 1285

*Acies bellatrices in aere apparuerunt.*³⁷⁰ (Armies fighting) Meteors.

(311) 1287, 7 August. See DO.

*Apparuerunt in nocte due stelle, una magna valde et alia parva multum, et subito noctem sicut sol illuminaverunt et subito defecerunt.*³⁷¹ (Two stars) Two meteors.

(312) 1301, 6 November

*Appari in cielo un segno maraviglioso; il qual fu una croce vermiglia, sopra il palagio de'Priori. Fu la sua lista amplia più che palmi e mezo; e l'una linea era di lungheza braccia xx in apparenza, quella attraerso un poco minore.*³⁷² (A cross in the sky) A meteor seen in Florence.

(313) 1309

*Bolis perpetua ardens per caelum dilabitur.*³⁷³ (Ball of fire) A meteor.

(314) 1309, 10 May. See DO.

*Apparve in aria uno grandissimo fuoco, grande in quantità d'una grande galea, correndo dalla parte d'Aquilone verso il meriggio con grande chiarore.*³⁷⁴ (A very great fire) A bright meteor running from north to south, seen in all Italy.

(315) 1317, 30 April

*Sidus quoddam in coelis apparuit ..., expandens comas igneas velut fulgur divisum in quatuor partes a loco, ubi Sol in meridie continetur; rutilando comas illas igneas versus Austrum.*³⁷⁵ (Like a lightning) A meteor seen in Italy, going to the south in the morning.

(316) 1318, 20 January

*In primo somno, quae spargens comas suas velut faculas igneas apparentes in quatuor partes ... Rutilantes versus Orientem per mediam horam & statim quaedam alia apparuit post praedictam, licet non tam magna, rutilans caudam magnam versus mare Adriaticum.*³⁷⁶ (Great star) A meteor.

(317) 1325, 22 May. See DO.

*Uno grandissimo vapore di fuoco si vide volare sopra la Città, & chi senti & vide i detti segni, dubitò di futuro pericolo & novitate.*³⁷⁷ (Vapour of fire) A meteor that the author links to an earthquake that happened the day before in Florence.

(318) 1328, 24 June

*Apparuit quidam ignis in figura serpentis a meridie versus mane, & tam demissus, quod quasi videbatur tangere Turrim Majoris Eccleisae Mutinae; & stetit in dicto aëre per magnum spatium.*³⁷⁸ (Fire like a snake) A meteor seen in Modena, northern Italy.

(319) 1330, 5 July. See DO.

*Visa fuit in aere, non nimis alta, stella longa bene per unum brachium ad modum comete et ad modum unius fasele ardentis, et ampla et grossa ad caput, quod incedebat, et ad caudam, quae sequebatur, suptilior.*³⁷⁹ (An elongated star) A meteor.

(320) 1338

*Mirabilis stella comata flammeis crinita radijs ab aquilone surgete, et versus Mediolanum radios vibrare visa fuit. Ignis terribiles sub diversis figures per aera discurrere apparuerunt. Et ecce subito tantorum prodigiorum effectus proportionatus enintuit. Sydus, idest stella comata signa dedit caudam fundens ad austrum.*³⁸⁰ (Terrible fires in different forms) Meteors that the author seems to associate with a comet, maybe X/1338 G1,³⁸¹ seen in April.

(321) 1347, 25 January. See DO.

*Vapor immensus a boreali plaga, non sine magno intuitum terrore, e coelo dilabi visus est.*³⁸² (Immense vapour) A meteor.

(322) 1347, 20 December

*Quasi com una colonna di fuoco, et dimorovo per ispazio d'una hora.*³⁸³ (Column of fire) A meteor seen in Avignon.

(323) 1348, 25 December. See DO.

*Ignis apparuit de celo, tenens ab oriente usque occidentem. In partibus Katalonie tres lapides maximi ceciderunt de celo, quorum quilibet erat ponderis maximi, et miserunt unum domino Regi super quodam mulo.*³⁸⁴ (Fire appeared in the sky, three big stones fell) A shower and a meteorite fell in Catalonia, Eastern Spain.

(324) 1351

*Visum fuit in Provincia portentum ignis in Caelo, quod a Philosopho appellatur Candela rotunda.*³⁸⁵ (Marvelous fire in sky)

(325) 1351, December

*A burning beam was seen to fall from the sky.*³⁸⁶ A meteor that the author seems to link to the apparition of comet C/1351 W1 in December.

(326) 1352. See DO.

*Caelestis flamma post solis occasum unter zephyrum atque austrum latissimi excrescens terribileque ostentas incendium tandem murmure magno per caelom ruit.*³⁸⁷ (Celestial flame) A meteor.

(327) 1352, 12 October. See DO.

*Parve in nell'aire uno segno, per questo modo che 'l parve a modo d'uno fuocho, quasi a modo d'uno serpente, et rendea tanto splendore in ogni parte, como farebbe la luna. Et vene da ponente et parve gire a mezodì. Passò cossì a modo d'uno volido et bassissimo.*³⁸⁸ (A sign of fire, like a snake) A meteor.

*Si mosse tra Gherbino e Mezzo giorno una massa grandissima di vapori infocata, la quale ardeva con sì gran fiamma, che tutto il cielo di sopra e la terra alluminava maravigliosamente.*³⁸⁹ (A very great mass of vapour) This is a short transcription of a much longer text containing details and comments. The author uses the names of the winds to indicate the place where the meteor raised: between south-west (Gherbino or Garbi) and south (Mezzogiorno or Ponente).

*Apparuit in coelo inter Orientem et Occidentem et Meridiem stella magna in modum globi palearum accensi, cuius splendour illuminavit totam terra lumine magnum et divisit se in tribus partibus.*³⁹⁰ (A star) The meteor was seen in Parma and it split in three fragments.

(328) 1352, 13 October. See DO.

*Species Ignea horribili incredibilique magnitudine, post occasum solis inter zephyrum, et austrum orta lateque per eam coeli plagam aliquamdiu vagata, insigni demum edito fragore, in terram delabi est conspecta.*³⁹¹ (A sort of fire) A meteor moving from southwest seen after the sunset.

(329) 1353

*Caelestis quoque flamma longum prò se trahens extinctum limitem a septentrione in austrum repente fertur.*³⁹² (A flame) A meteor.

(330) 1353, 1 March. See DO.

*Si mosse uno sformato fuoco nell'aria: il quale corse per Gherbino inverso Greco, come have fatto l'altro, che prima era venito col tremuoto, ma di lume e di infiammazione, non molto minore.*³⁹³ (Shapeless fire in the air) A meteor running from south-west to north-east (Greco or Gregal, the name of a wind).

(331) 1353, 11 August. See DO.

Si mosse da mezzo il Celo fuori del Zodiaco uno vapore grande infocato e sfavillante, il quale scorre per diritto di Levante in Ponente, lasciandosi dietro uno vapore cenerognolo traendo allo stagneo, steso per tutto il corpo suo. (A great inflamed vapour) A meteor seen after sunset from east to west.

(332) 1353, 12 August

*Insignis flamma diro quidem aspectu longum post se extinctum tramitem ducens, ab austro ad septentriones percurrise conspecta est; quam repente de coelo lapsam, statim maximum solis deliquium est consecutum.*³⁹⁴ (An extraordinary flame) A meteor.

(333) 1356, 20 November. See DO.

*Trapssò di verso Settentrione un meriggio un grande bordone di fuoco, e valicato per l'aria alla vista de' nostri occhi essendo el tempo chiaro e cheto, s'udì a modo d'un suono tremolante avvisato dal movimento del grosso vapore.*³⁹⁵ (A great staff of fire) A meteor that appears before dawn moving from north to south. It was followed by a thunder.

(334) 1362, 8 April. See DO.

*Uno grande tuono si sentì in aire, lo quale molto fece maravillare a la gente, e inanzi li venne uno baleno con vapori incesi.*³⁹⁶ (A thunderbolt with inflamed vapours) A meteor in the morning, seen over Florence, followed by a thunder.

(335) 1366, 21 October

*Scintillatio stellarum.*³⁹⁷ (Sparkling of stars) A shower. See DO.

*Movimiento continuo de estrellas cadentes o vagas a manera de lluvia el 21 de octubre.*³⁹⁸ (Stars in movement, like rain) A shower.

(336) 1366, 22 October

*Vise sunt quasi stelle de celo cadere continuo, et in tanta multitudine, quod nemo narrare sufficit.*³⁹⁹ (Stars fell) A shower seen in Prague in the early morning.

(337) 1366, 23 October

*Se fez no ceo hum movimento de estrellas qual os homens não virão, nem ouirão ... E foi que desda mea noite por diãe, correrão todas las strellas do Leuãnte para o Ponente, & acabado de serem juntas començarão a corre hũas para hũa parte, & oitras para outra. E despois descerão do ceo tantas & tam spessas que tão que forão baxas no ar, parecião grandes fogueiras, & que o ceo & o ar ardião, & quem a mesma terra queria arder.*⁴⁰⁰ (Movement of stars) A big shower seen in Portugal from midnight, the stars seemed to move from east to west.

(338) 1380, 21 August

*Una stella aparbe nell'aria cor una coda di fuoco dietro a di 21 d'agosto a una hora di notte, e alluminava le vie e le case, e pareva che tenesse dal levante al ponente, ed era cosa incredibile, che ogni uno che la vedea si maravigliava.*⁴⁰¹ (A star with a tail of fire) A meteor seen at night.

(339) 1383, 15 February

*Aparve una stella chiarissima, grande e grossa.*⁴⁰² (A very clear bright star) A meteor that crossed the sky.

(340) 1387, January

*In Puglia, sopra la città di Barletta mirabili fiamme, però che poco innanzi alle due ore dopo il tramontar del sole ne l'aere furon vedute molte facelline ardenti volare e alter pareano bordonì grandissimi accesi e ispesse grandi faville si spiccavano da essi ed erano quando sei, quando otto, quando dieci e alcuna volta più.*⁴⁰³ (Marvelous flames) A shower seen in Barletta, southern Italy. It started 2 hours after sunset. The stars seem to run from south-west to north-east.

(341) 1388, January

*Apparuit ignis ad modum facium; unde terrigenae valde perterriti fuerunt.*⁴⁰⁴ (A fire) A meteor that appeared in the afternoon in Barletta, in southern Italy.

(342) 1388, 8 January

*Visae fuerunt à parte Occidentis stellae ire per Coelum, sonito horrifico versus Neapolim, & Caietam, quae quidem stellae claritate erant praefulgidae, & tanti splendoris, ut quando earum discursus fiebat, esse videbatur quasi medius dies, quantitate erant indiscretae: nam aliquae ipsarum tantae quantitatis cernebantur, ac si essent magna trabes igneae, in numero fuerunt.*⁴⁰⁵ (Stars went through the sky like beams of fire) A shower seen in Naples and Gaeta, in Italy.

(343) 1391, 9 July

*Sagittae sex de Coelo cadunt in dimidia hora.*⁴⁰⁶ (Six arrows fell from the sky) Meteors.

(344) 1398

*Multae stellae ad modum ignis ceciderunt.*⁴⁰⁷ (Stars fell like fires) A shower seen in Italy.

(345) 1399, September–October

*Stellae quoque instar ignis de coelo cadentes in plerisque Italiae locis visae sunt.*⁴⁰⁸ (Stars fell like fires) A shower seen in many places of Italy after the partial solar eclipse of 29 September.

(346) 1403, 18 December

*Globus igneus immensae magnitudinis in coelo exardere a secunda hora noctis ad auroram est visum.*⁴⁰⁹ (Balls of fire) Meteors seen from noon to dawn in Italy.

(347) 1408, 16 October. See DO.

*Vidimus unam pulcerimam stellam moventem de celo.*⁴¹⁰ (A star moving from the sky) A meteor that appeared 1 hour after sunset from west to east and split into three pieces.

(348) 1410, 2 September

*Y en este dia parecio caer una gran llama del cielo sobre la villa de Antequera.*⁴¹¹ (A big flame seemed to fall from the heaven) A meteor seen in Antequera, Southern Spain.

(349) 1411, 8 December

*A very large and terrible serpent came flying from the town of Kashin. It was belching flames and flew from east to west toward a lake.*⁴¹² A meteor seen in Kashin, in Western Russia.

(350) 1413, 2 December

*Vidimus omnes unum magnum trabem ineum currentem in aire.*⁴¹³ (Fire seen in the sky) A meteor seen after sunset, moving to the Pontus, in Turkey.

(351) 1433, 5 January

*É caminando vuéron todos una gran llama que iba corriendo por el cielo, é duró gran rato, é dende á poco dio un tronido tan grande, que se oyó á siete ó ocho leguas dende.*⁴¹⁴ (A great flame crossing the sky) A meteor seen by the King Juan II in Ciudad Rodrigo, in western Spain. The smoke that the meteor left behind lasted for a long time, and it was followed by such a big thunder that was heard seven or eight leagues around.

(352) 1434, 14 October

*Apparuerunt signa in Coelo de stellis, quae videbatur hominibus aliae cadere, aliae fulgere sicut faculae.*⁴¹⁵ (Some stars fell, others were like torches) A shower.

(353) 1451, 22 August

*Se vió por espacio de media hora sobre esta ciudad una cruz blanca en el aire.*⁴¹⁶ (A white cross in the air) A meteor seen in Bayonne, in France. Seen as a sign of heavenly approval of the surrender of the city.

(354) 1456, Spring

*In questa primavera fu più volte per l'aria veduto flamme di fuoco andante.*⁴¹⁷ (Flames of moving fire) Sporadic meteors.

(355) 1456, 1 June

*Cometes apparuit in celo, crinibus diffusis, ad modum flames ignis ardentis.*⁴¹⁸ (Flames of fire) This is a possible meteor, but it could also have been an early observation of C/1456 K1, Halley's comet. According to Peurbach, the comet was visible from 3 June, although there are Eastern observations of the comet from 27 May.⁴¹⁹

(356) 1456, 14 June

*Se ne vidde una [flamma di fuoco] grande e spaventevole, la quale si raccolse sotto la luna, che avea circa di 9, et quivi ragunata stante pocco spazio andò verso ponente con gran romore e splendore, et di sibuto spari, lasciandosi drieto nebulosità fummosa, con romore di tuono sordo che durò per spazio di dire dua paternostri.*⁴²⁰ (A great star that casted smoke and was followed by a thunder) A meteor seen late at night under the moon and running west.

(357) 1456, 4 December

*Dicesi che innanzi detto tremuoto fu veduto alla via di tramontana per aria un grandissimo fuoco.*⁴²¹ (A great fire) A meteor seen during an earthquake in Naples.

(358) 1457, 31 July

*Vidi quamdam aliam stellam de maioribus in regione meridionali se moventem de loco ubi erat et progredientem recto tramite per transversum usque ad occidentem; ubi restitit et resedit, que in eius progressu videbatur ad modum unius mangne flamme ingnis quantum esset flamma unius ingnis accensi cum lingnis, et progrediebatur non nimis veloci set lento cursu, et cum resedit stetit alta in occidente, sicut sol in vespers apparet, et ibi apparuit ut fuerat stella magna et sic cum aliis processit ad occasum suum.*⁴²² (Moving star) A meteor from south to west, seen before dawn.

(359) 1459

*Una grande llama que se vio en el cielo, que dividiéndose en dos partes, la una discurrió hacia levante y se deshizo, la otra duró por un espacio.*⁴²³ (A great flame) A meteor seen in Castile (Spain) and considered a bad omen. It broke in two pieces: one ran eastward and vanished, the other lasted for a time.

(360) 1459, 28 October

*Per molts fonch vista una molt gran e groça stela ab una gran coha de fonch qui menava gran fum detràs si.*⁴²⁴ (A big star) A meteor seen in Barcelona with a large tail of fire that cast much smoke behind it, from west to east.

(361) 1460, 2 August

*A blazing star was plainlie séene.*⁴²⁵ A meteor regarded as an omen of the death of King James II of Scotland.

(362) 1463, March. See DO.

*Sidus insolitum permultos habens radios illustres circumquaque, forsitan per tractum sagittae in modum ignis coruscantes.*⁴²⁶ (Unusual star, fiery arrow) Maybe a meteor.

(363) 1464, 10 October

*Se viu un gran senyal de foch en lo cel, ten gros com un gran payller, e llançà molta clareda.*⁴²⁷ (A great sign of fire) A meteor seen in Barcelona before midnight.

(364) 1466, 8 January

*Apparuit in septemtrionali plaga quidam trabs igneus et longus progrediens versus meridiem et ulliminans omnem terram, et postea evanuit.*⁴²⁸ (Inflamed beam) A meteor from north to south seen after sunset.

(365) 1469, Summer

*Apparebunt multe stele cadentes.*⁴²⁹ (Falling stars) Showers during the summer.

(366) 1470, 19–21 February

*Apparuit quidam mangnus trabs ingnitus dixcurrens per aerem verso septentrionem primo die; set aliis diebus predictis similiter apparuit, sed non eadem hora ymmo tardius.*⁴³⁰ (Inflamed beams) Three meteors seen on consecutive days, in the morning, running west.

(367) 1471, 26 November. See DO.

*Apparuit in aere quidam trabs ingneus in oriente dixcurrens versus occidentem, qui ardens suo splendore totam terram videbatur illuminare.*⁴³¹ (Inflamed beam) A meteor from east to west. DO provides year 1472, but the meteor is dated on a Tuesday and before a Lunar eclipse that happened on Wednesday, 27 November, which fits year 1471 and not 1472.

(368) 1471, 18 December

*Se viu al cel una gran stela ab raigs, lensant gran claror en forma no acostumada.*⁴³² (A great star casting long rays). A meteor seen in Barcelona.

(369) 1472, 1 March

*Apparuit quidam mangnus trabs ingneus et flammeus corruscans in celo.*⁴³³ (Inflamed beam) A meteor seen at night.

(370) 1473. See DO.

*Passò per la via una lumiera overo sprendore, c'aluminò come uno sole o fu poca d'otta.*⁴³⁴ (A light) A meteor seen in the late afternoon.

(371) 1476, 21 November

*Many true-believers saw a fiery pillar which stood above the city of Novgorod and reached from the sky to the earth. They also heard thunder in the sky, but it all disappeared toward daylight.*⁴³⁵ A meteor.

(372) 1479, 21 September

*In the fifth hour of the night, in the village of Olexinskoie, across the river Oka, many persons saw that the stars fell on the earth like rain from the sky, and striking the earth they scattered like sparks and became invisible.*⁴³⁶ A shower reported from central Russia.

(373) 1480, 22 November. See DO.

*Apparuit in medio plate magne communis Parme ignis ad modum stele cadentis, qui finivit super tecto palatii potestatis, absque ulla lexione.*⁴³⁷ (A fire like a star) A meteor seen in Parma at midnight.

(374) 1481. See DO.

*Hoc anno ... lapidem pondo mille de coelo prodigiose lapsum.*⁴³⁸ (A stone fell) A meteorite fell from the sky in Genua, northern Italy.

(375) 1482, August

*Apparuit his temporibus una nocte ingens stella in aëre versus montes Parmenses cum maxima cauda ignea.*⁴³⁹ (Star in the sky) A meteor seen in Parma as an omen of the death of Domino Petri Mariae Rubei.

(376) 1482, 27 August

*Per l'aere fu da moltissime persone veduta, et io che scrivo benissimo la vidi, una fiaccola grandissima di fuoco ardente orrenda et terribilissima, venne di verso settentrione et ardeva verso mezo giorno.*⁴⁴⁰ (A big flame of fire) A meteor seen in Siena, seen from north to west, in the beginning of the night. The author claims to have seen it himself.

(377) 1482, 14 December. See DO.

*Apparuit in Parmensi stella cadens magni fulgoris, com terremoto, sine tronitu, aiere claro et sereno.*⁴⁴¹ (Falling star) A meteor seen in Parma.

(378) 1491

*They saw a strange sign. It was as if a light cloud or thin smoke spread around, White as a pure frost and bright as the sun. Then the people saew the likeness of the Hily Prince on a white horse rising up towards the sky.*⁴⁴² A meteor.

(379) 1492

*Caída de un gran aerolito.*⁴⁴³ (A meteorite fell) Notice of the fall of a meteorite in Alsace, in northeastern France.

(380) 1492, 7 November

*At noon ... a large triangular stone, weighing a hundred pounds and slightly smaller than a "saltzscheibe," shaped like the Greek letter "D," fell from the sky at Ensisheim, in Sundgau, as an omen of unusual things to come.*⁴⁴⁴ A meteorite with strange signs. Another meteorite is reported to have fallen in the time of Frederick II.

(381) 1493, 4 August

*Se observaron por el aire fuegos y meteoros maravillosos.*⁴⁴⁵ (Wonderful fires and meteors in the sky) A shower.

(382) 1496, 14 February

*Vexen sobre Segorb una hora après migjorn una barra de foch puix negant de ample de una na, vegenla la bolta de Llevant.*⁴⁴⁶ (A bar of fire) A meteor as wide as a hand, towards the east, seen in Segorbe, Eastern Spain, at noon.

Conclusion

On the basis of the survey provided by DO of European meteoritic observation, we have significantly enlarged the list of reports, using mainly the current classical sources and also other local documents previously not considered by the different authors that have dealt with this issue. We provide a survey of 382 records, most of them previously unnoticed. These accounts will be useful to carry out research works about different studies regarding meteoritic activity.

Awaiting a more rigorous analysis, the new data already allow the correction of anomalies detected by other authors, the most important being the absence of observations of the August star showers, particularly the Perseids, which was evidently due to the absence of sources and not its non-occurrence.

Although we have used a huge amount of European documents, it is virtually impossible to consider all of them, not counting those that have not been published or may appear later, so hopefully this list can be extended in future researches.

This paper should also serve to value the impressive work of authors like Umberto Dall'Olmo who, without the current tools, managed to compose a remarkable list of events related to meteors.

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Notes

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3. See, for example, Herrick, "Contributions towards a History of the Star-Showers of Former Times," (Note 2), 1841; Quetelet, "Catalogue Nouveau des principales apparitions d'étoiles filantes," (Note 2), and more recently, S. Imoto and I. Hasegawa, "Historical Records of Meteor Showers in China, Korea, and Japan," *Smithsonian Contribution to Astrophysics*, 2, 1958, pp. 131–44.
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6. See, for example, P. Jenniskens, "Meteor Stream Activity," *Astronomy and Astrophysics*, 295, 1995, pp. 206–35; S.J. Dick, "Observation and Interpretation of the Leonid Meteors over the Last Millennium," *Journal of Astronomical History and Heritage*, 1(1), 1998, pp. 1–20; A. Sang-Hyeon, "Meteors and Showers a Millennium Ago," *Monthly Notices of the Royal Astronomical Society*, 343, 2003, pp. 1095–100; A. Sang-Hyeon, "Meteoric Activities during the 11th Century," *Monthly Notices of the Royal Astronomical Society*, 358, 2005, pp. 1105–13.
7. See U. Dall'Olmo, "Latin Terminology Relating to Aurorae, Comets, Meteors and Novae," *Journal for the History of Astronomy*, 11, 1980, pp. 10–27, for a complete discussion on this subject.
8. U. Dall'Olmo, "An Additional List of Auroras from European Sources from 450 to 1466 A.D.," *Journal of Geophysical Research*, 84(A4), 1979, pp. 1525–35.
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21. Georgius Cedrenus, *Compendium Historiarum* (Note 17), p. 676.
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27. Fr. P. Reynoso, *Siglos Geronymianos* (Madrid: Imprenta de Bernardo Peralta, 1736), vol. 6, p. 538.
28. *Chronicarium quae dicuntur Fredegarii Scholastici Liber iii: Monumenta Germaniae historica, Scriptores rerum Merovingicarum*, vol. ii, p. 114; *Chronicon S. Benigni Divionensis*: Migne, *Patrologia cursus completus ... Series Latina*, vol. clxii, p. 768.
29. *Amoini monachi Floriacensis historia Francorum libri II*: Migne, *Patrologia cursus completus ... Series Latina*, vol. cxxxix, p. 684.
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31. *Gregori episcopi Turonensis Libri historiarum X: Monumenta Germaniae historica, Scriptores rerum Merovingicarum*, vol. i, p. 238; *Sigeberti chronica: Monumenta Germaniae historica, Scriptores*, vol. vi, p. 319.

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33. *Aimoni monachi Floriacensis historia Francorum libri III: Migne, Patrologia cursus completus ... Series Latina*, vol. cxxxix, p. 717. See also *Chronicarium quae dicuntur Fredegarii Scholastici Liber iii: Monumenta Germaniae historica, Scriptores rerum Merovingicarum*, vol. ii, p. 115.
34. *Gregorii Episcopi Turonensis Historiarum L. VI.: Monumenta Germaniae historica, Scriptores rerum Merovingicarum*, vol. i, p. 289.
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39. De Montemayor, *Historia General de Francia* (Note 14), p. 61.
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41. *Cronicarum quae dicuntur Fredegarii Scholastici libri IV: Monumenta Germaniae historica, Scriptores rerum Merovingicarum* (7 vols, Hannoverae etc., 1884-1920), vol. ii, p. 125; *Aimoni Monachi Floriacensis. De gestis Francorum. L. III: Migne, Patrologia cursus completus ... Series Latina*, vol. cxxxix, p. 748; *Bernoldi Chronicon: Monumenta Germaniae historica, Scriptores*, vol. v, p. 413; *Herimanni Aug. Chronicon: Monumenta Germaniae historica, Scriptores*, vol. v, p. 90 gives year 587.
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44. *Agnelli lib. Pontif. Par II: Rerum Italicarum Scriptores ab anno aerae christianae 500 ad 1500* (25 vols Mediolani, 1723-1751), vol. ii, p. 129.
45. *Chronicon Vedastinum: Monumenta Germaniae historica, Scriptores*, vol. xiii, p. 690.
46. *Chronicarium quae dicuntur Fredegarii Scholastici Liber iv: Monumenta Germaniae historica, Scriptores rerum Merovingicarum*, vol. 2, p. 128. See also *Chronicon S. Benigni Divionensis: Migne, Patrologia cursus completus ... Series Latina*, vol. clxii, p. 771; *Aimoni Monachi Floriacensis. De gestis Francorum. L. III: Migne, Patrologia cursus completus ... Series Latina*, vol. cxxxix, p. 755.
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57. Kronk, *Cometography* (Note 50).
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65.  *Leonis Monachi Opera Omnia*, ed. by T. Arnold (Cambridge: Cambridge University Press, 2012), vol. 2, p. 38. **[AQ: 9]**
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
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 72. Georgius Cedrenus, *Compendium Historiarum*, p. 12.
 73. Kronk, *Cometography* (Note 50).
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 79. *The Anglo-Saxon Chronicle*, <<http://www.gutenberg.org/cache/epub/657/pg657.html>>
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 87. *Annales Xantenses: Monumenta Germaniae historica, Scriptores rerum Germanicarum*, vol. xii, p. 6.
 88. *Annales Weissemburgenses: Monumenta Germaniae historica, Scriptores*, vol. i, p. 111.
 89. *Annales Xantenses: Monumenta Germaniae historica, Scriptores rerum Germanicarum*, vol. xii, p. 10.
 90. *Annales Xantenses: Monumenta Germaniae historica, Scriptores rerum Germanicarum*, vol. xii, p. 10.
 91. *Annales Xantenses: Monumenta Germaniae historica, Scriptores rerum Germanicarum*, vol. xii, p. 10.
 92. *Ruodolfi Fuldensis Annales: Monumenta Germaniae historica, Scriptores*, vol. i, p. 362. In *Petri Bibliothecarii. Historia Francorum Abbreviata: Monumenta Germaniae historica*,

- Scriptores*, vol. i, p. 417, the year is 840; *Sigeberti chronica: Monumenta Germaniae historica, Scriptores*, vol. vi, p. 339; *De Gestis Ludovico Pii Imp.: Rerum gallicarum et francicarum scriptores*, vol. 6, p. 211; *Ex Hermanni Chronico: Rerum gallicarum et francicarum scriptores*, vol. 6, p. 226.
93. Kronk, *Cometography* (Note 50).
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 101. *Fragmentum Chronici Fontanellensis: Monumenta Germaniae historica, Scriptores*, vol. ii, p. 301.
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 108. *Ruodolfi Fuldensis Annales: Monumenta Germaniae historica, Scriptores*, vol. i, p. 369; *Petri Bibliothecarii. Historia Francorum Abbreviata: Monumenta Germaniae historica, Scriptores*, vol. i, p. 417. In this record, year 856 appears erroneously. *Herimanni Aug. Chronicon: Monumenta Germaniae historica, Scriptores*, vol. v, p. 105.
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117. *Monasterii Novaliciensis: Rerum Italicarum Scriptores ab anno aerae christianae 500 ad 1500*, vol. ii, pt 2, p. 756.
118. *Iohannis Chronicon Venetum: Monumenta Germaniae historica, Scriptores*, vol. vii, p. 21.
119. *Chronica Sancti Benedicti: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 202.
120. *Chronica Sancti Benedicti: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 203; *Catalogus Regum Langob. et Ducum Beneventanorum*, <<http://www.mgh.de/>> (in German); *Scriptores rerum Langobardicarum et Italicarum*, p. 496.
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122. *Chronica Sancti Benedicti: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 203.
123. *Johannes de Vita ... Thesaurus alter antiquitatum beneventarum* (Note 121), p. 228.
124. *Annales Xantenses: Monumenta Germaniae historica, Scriptores*, vol. ii, p. 218; *Radbodi Breve Chronicum: Migne, Patrologia cursus completus ... Series Latina*, vol. cxxxii, p. 547.
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144. *Flodoardi Annales: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 377; *Richeri Hist. Lib. I: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 583; M. Guizot, *Flodoard: Histoire de L'église de Rheims* (Paris, 1924), <<http://remacle.org/bloodwolf/historiens/flodoard/histoire9.htm>>, this reference provides year 926.
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146. *Iacobi Malvecii Chronicon: Rerum Italicarum Scriptores ab anno aerae christianae 500 ad 1500*, vol. xiv, p. 866.
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148. *Flodoardi Annales: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 382; *Richeri Hist. Lib. I: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 586.
149. J. Vernet Ginés, "Algunos fenómenos astronómicos observados bajo los Omeyas españoles," *Revista del Instituto Egipcio de Estudios Islámicos*, 21, 1981, pp. 23–30; Rada and Stephenson, "A Catalogue of Meteor Showers in Mediaeval Arab Chronicles" (Note 4). See Martínez and Marco, "A Survey of Meteoric Activity over Spain during the Eighth–Fifteenth Centuries" (Note 68) for more details.
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 155. *Flodoardi Annales: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 391.
 156. *Flodoardi Annales: Monumenta Germaniae historica, Scriptores*, vol. iii, 392.
 157. Kronk, *Cometography* (Note 50).
 158. *Richeri Historia: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 597. In Dall’Olmo, “Latin Terminology Relating to Aurorae, Comets, Meteors and Novae” (Note 7), this author states that according to the context, this event is not a meteor.
 159. *Annales Marbacenses: Monumenta Germaniae historica, Scriptores*, vol. xvii, p. 152. This source provides year 950. *Herimanni Aug. Chronicon: Monumenta Germaniae historica, Scriptores*, vol. v, p. 114 and *Bernoldi Chronicon: Monumenta Germaniae historica, Scriptores*, vol. v, p. 422 give year 951, and 952 is given in *Annales Wirzburgenses: Monumenta Germaniae historica, Scriptores*, vol. ii, p. 241; *Annalista Saxo: Monumenta Germaniae historica, Scriptores*, vol. vi, p. 609. For year 953, see *Annales Mellicenses: Monumenta Germaniae historica, Scriptores*, vol. ix, p. 497.
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 161. *Annales Floriacenses: Monumenta Germaniae historica, Scriptores*, vol. ii, p. 255; *Ex Historia Willelmi Gemetic: Rerum gallicarum et francicarum scriptores*, vol. 8, p. 254; *Ex Fragmento Historiae Francorum. Rerum gallicarum et francicarum scriptores*, vol. 8, p. 299.
 162. *Ekkehardi Chronicon Wirzburgense: Monumenta Germaniae historica, Scriptores*, vol. vi, p. 29; *Honorii Summa: Monumenta Germaniae historica, Scriptores*, vol. x, p. 130.
 163. This reference belongs to ‘Isa Ibn Ahmad Al-Razi, *Anales Palatinos del califa de Córdoba Al-Hakam II, por ‘Isa Ibn Ahmad Al-Razi* (Madrid: Traducción de Emilio García Gómez, Sociedad de Estudios y Publicaciones, 1967), which is a translation of part of Ibn Hayyan’s *Al-Muqtabis*. The same register is quoted by Cook, “A Survey of Muslim Material on Comets and Meteors” (Note 4) but assigns to it a wrong date. A good Spanish translation is in Vernet Ginés, “Algunos fenómenos astronómicos observados bajo los Omeyas españoles” (Note 149); See also Martínez and Marco, “A Survey of Meteoric Activity over Spain during the Eighth–Fifteenth Centuries” (Note 68) for more details.
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 165. *Jacobi Malvecii Chronicon: Rerum Italicarum Scriptores ab anno aerae christianae 500 ad 1500*, vol. xiv, p. 869.
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 168. *Ex Chronico Masciacensi: Rerum gallicarum et francicarum scriptores* (Ed. Dom. Martin Bouquet, 1738), vol. 8, p. 230; *Annales Magdeburgenses: Monumenta Germaniae historica, Scriptores*, vol. xvi, p. 154; *Annalibus Islandicis: Monumenta Germaniae historica, Scriptores*, vol. xxix, p. 257.
 169. *Sigeberti chronica: Monumenta Germaniae historica, Scriptores*, vol. vi, p. 352; *Annales Egmundani: Monumenta Germaniae historica, Scriptores*, vol. xvi, p. 445; *Annales Floreffenses: Monumenta Germaniae historica, Scriptores*, vol. xvi, p. 622; *Annales Remenses et Colonienses: Monumenta Germaniae historica, Scriptores*, vol. xvi, p. 731.

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171. Vernet Ginés, “Algunos fenómenos astronómicos observados bajo los Omeyas españoles” (Ref. 149).
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174. *Annales Quedlimburgenses: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 74; *Monachi Sazavensis Continuatio Cosmae: Monumenta Germaniae historica, Scriptores*, vol. ix, p. 149.
175. *Annales Floreffenses: Monumenta Germaniae historica, Scriptores*, vol. xvi, p. 622.
176. Ibn Rushd, *Aristotelis de Coelo, de generatione, & corruptione, meteorologicum, de plantis libri, cum Averrois Cordubensis variis in eosdem commentariis: editio Juntina prima* (Venezia, 1550), vol. V, <http://capricorn.bc.edu/siepm/DOCUMENTS/AVERROES/Averroes_DC_DGC_M_JuntPrima_05.pdf>; See Martínez and Marco, “A Survey of Meteoric Activity over Spain during the Eighth–Fifteenth Centuries” (Note 68) for more details.
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185. *Annalista Saxo: Monumenta Germaniae historica, Scriptores*, vol. vi, p. 667; *Annales Magdeburgenses: Monumenta Germaniae historica, Scriptores*, vol. xvi, p. 165; *Thietmari Chron. Lib iii: Monumenta Germaniae historica, Scriptores*, vol. iii, p. 839.
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388. *Corpus Chronicorum Bononiensum: Rerum Italicarum Scriptores ab anno aerae christianae 500 ad 1500*, vol. xviii, pt 1, p. 17.
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395. *Matthei Villani Historia: Rerum Italicarum Scriptores ab anno aerae christianae 500 ad 1500*, vol. xiv, p. 432. In other versions of the book, we find the date 22 November.
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